

Original Correspondence.

THE SOUTH WALES COAL FIELD.

SIR,—Several communications have recently appeared in the Journal respecting the evidence I gave before the Committee of the Lords, on the Aberdare and Central Wales Bill, as to the quantity of coal contained in the Hirwain Coal and Iron Company's property. My evidence on the Bill in question occupies 16 quarto pages in the official shorthand report of the proceedings, and is there correctly reported as "millions" in every case. In no single instance did the word "billions" escape my lips. Had it have done so, with the bitter opposition we had to contend with from the Great Western, you may rely upon it the eminent counsel engaged in that company's interest would not have lost the fine opportunity such a slip would have given them, and we might not have come off so triumphantly as we did with our Bill, their Lordships deciding in our favour, without even calling on our counsel, Mr. Harcourt, for a reply.

I certainly thought some of your correspondents would have referred to an authentic report of my evidence before wasting their own and your readers' time with their comments and calculations, which, being founded on incorrect data, are valueless.

For your own satisfaction, Mr. Editor, I have sent you a map* showing the acreage of the Hirwain Company's property, and a section of the coal seams, by which you can readily verify for yourself the accuracy of my statements, if you apply the ordinary rule that every foot thickness of workable coal yields 1000 tons per acre.

Swansea, Aug. 1.

THOMAS C. HINDE.

* This is a carefully executed map, describing an area of nearly 1000 square miles, and embracing from Swansea to Newport in the one direction, and from Cardiff to beyond Hirwain in the other, which has just been completed by Mr. Leyson Rhys, Esq., of Hirwain. The map not only shows the favourable position, commercially considered, of the Hirwain Coal and Iron Company's property, but the relative location of the other coal and iron works of the district. The scale chosen being 1 inch to the mile, the map is very legible; whilst, from the large amount of information it contains, it cannot fail to prove interesting to all engaged in the development of the minerals. The map is accompanied by a section showing the seams of coal below the property, with their relative thickness and position, and some interesting statistics relative thereto are also given. The aggregate thickness of the coal seams beneath the property is 47 feet, and the aggregate extent of the property is 5018 acres, the Hirwain Common estate 3317 acres, and the Rhigos estate 1701 acres. The iron made at the Hirwain works in one year was—pig-iron, 26,182 tons; metal, 11,849 tons; and puddled bars, 14,374. The limits of geological formations are likewise shown on the map.

COAL TRADE—ENGLISH AND FOREIGN—No. II.

SIR,—With the view of avoiding prolixity in the statement of the French demand for English coal, I shall summarily dispose of those districts where English coal is consumed in limited quantities for special purposes (principally for mixing in gasworks), and where no important addition may be anticipated to the present supply. These are the whole of the eastern, the central, southern, and most of the extreme northern districts, with the exception, perhaps, of some of the ports of the Atlantic and Mediterranean seaboard. In competition with the Belgian and French Mines, the English coal has obtained a firm footing, by virtue of its superior quality, and, notwithstanding the proximity of the Mons and North of France coalfields, in the markets of the north-west, through Dunkerque, Calais, Boulogne, St. Valery, and Dieppe; while at Rouen the English coals have succeeded in nearly excluding the supply from other quarters. At Nantes there is the formidable opposition of the Loire coal fields; but the quality of the produce is so much inferior to the English that, with any considerable reduction in freight, we might expect to quadruple the orders received from that port, as well as from Bordeaux, where we are in opposition to the St. Etienne and other southern coal fields. Those who have attentively followed the progress of this trade, and studied the indications of augmenting demand, will readily admit that the ground which remains from these exceptions is sufficiently large to admit of the increase I stated in my preceding letter of 2,000,000 tons annually. I do not speak of remote eventualities, for I believe that ultimately 10,000,000 tons will be nearer the mark of what we shall have to contribute to France, but of the present and immediate requirements of the case. The markets in question are those of Paris and its surrounding towns, and all the towns whose traffic finds the most convenient passage through the valley of the Seine.

Until the present time there was quite another consideration than the comparison of our coals in price and quality with their rivals. Wood, as a fuel, has been from time immemorial the exclusive subject of domestic consumption, although so immeasurably disadvantageous with respect to the economy of cost and calorific. The prejudice of the consumer, and some reasonable points of preference, assisted the resistance to the adoption of coal in household use. There was also the objection as to the existing flues and stoves, which were ill-conceived to carry off the smoke, or rather to give the necessary draft and distribution of flame for a comparatively perfect combustion; and then the gaudy decoration of apartments, so essentially part of French life, suffered immensely from coal smoke, and from ashes cast about by every gust of wind. Notwithstanding all these causes of repulsion, the introduction of coal is steadily advancing in dwellings, the remaining obstruction being that of price, which continues at a figure sufficiently high for the vast majority of consumers to make the objections overbalance the advantages.

The average price of coal in Paris, including all charges, is 50 frs., or 24. In other towns it varies from 45 frs. to 55 frs., according to the means of transport and town dues. The consumption in the districts we refer to amounts to about 2,500,000 tons. When the price can be reduced to (say) 30s. per ton the demand will be doubled. But the Belgian and French coal fields cannot sufficiently increase their yield to meet that contingency. As it is, in order to compete with the English coals, they forward the veriest rubbish, if it be only black, which, betimes, excites the intense disgust of the Paris dealers. And, again, the railways, with every effort to extend their means of traction, are even now publicly proclaiming their inability, by notices repudiating responsibility for prompt delivery. Looking around for other sources of adequate supplies, there are none from which they can be drawn but our own coal fields.

Here it is, then, the problem how to comply with the condition of the price I have named. That is all a question of freight, which involves a regular and continuous traffic impossible under present circumstances (indeed, it has been always so) of the freight market. All the other items of cost, such as discharging, octroi or town dues, cartage, and commission, may be considered as for the present fixed charges, and affecting equally all fuel, so that the onus of reduction must be shared between the mine and the ship.

In many cases the colliery proprietor is also steam-ship owner, and at Rouen, Dieppe, and other ports there are importers who find their account in freighting colliers. This is but within a small limit of what might be effected by a well-organised service. Besides, the present arrangements with regard to the class of colliers employed and the transit forward do not admit of that reduction of price which in every commodity is calculated to turn the balance in favour of consumption. It is needless at the present day to say that the uncertainty of delivery, especially in winter, and the fluctuations in freight by sailing vessels, wholly preclude any effective action, save only by steam colliers. Several attempts since 1854 have been made to push this trade, but as yet, owing to this difficulty of freight, only a very partial success has resulted. We have seen during the present year the formation of a company to act upon the plans of the original attempt to effect direct communication to Paris by sea-going steamers, but the promoters failed to obtain the required capital. At all events, though six months have elapsed no signs of vitality are shown, and it is fair to presume that the scheme is abortive. There remain three other projects in preparation.

By the first it is designed to employ vessels of 300 tons to carry coals from the North and from Wales to Paris without transhipment. There are many reasons why this operation is questioned, the principal being that the class of vessels does not afford a paying tonnage for coals; and the next is that the difficulties of navigation in the Seine, above Rouen, are ignored by the promoters of this scheme, otherwise there is no doubt that the principle is right. The second plan is merely the effective organisation of the present system, with steamers of 600 or 700 tons, involving transhipment in France, and adopting Rouen as the port of arrival, so as to take advantage of the water-carriage by the Seine, which is less costly, and causes less

depreciation in unloading and carriage, than the railway transit. The only objection to this is the transhipment, for if the arrangement answer to the extent (partial and inadequate as the means are) of forcing into these markets a very large and progressing trade, there can be little doubt of the same success for a well-managed and regular line of steamers. The last is certainly the boldest and the grandest, for steamers to carry 3000 (not 300) tons, and each working 10 steam-cranes in discharging. The programme of this line is to tranship at Havre into lighters, which will be towed up to Paris, and these in return will sweep the Seine of back-freight at a mere nominal rate. There are certain practical difficulties in the way of this last. But, although I am not one of those who reject the word "impossibility," the design is rationally and practically feasible, only it appears very probable, from my point of view, that at some moment of pressure for ocean-tonnage this class of vessel will be found to pay better in some other employment, and thus both the coal-owner and consumer may be left in the lurch. There is also the disadvantage of these monster colliers (very little short of 4000 tons measurement) being restricted to one or two ports at either side—at all events, they cannot go where the owners may like either to ship or unload cargo. The amount of sea-risk also is no inconsiderable feature; the failure of arrival to the extent of 3000 tons would be a serious block in business; and as vessels of that class can only enter Havre with spring tides, at the top of full and change, the arrivals must be fortnightly, which would give a very small chance of back-freight. I express no opinion as to the superiority of any of these alternatives; I believe that if all were working they would find quite enough to do. My object is to invite attention to the subject, and to suggest the propriety of supporting the first undertaking, by which it can be demonstrated to practical minds that profit will result. If I were to add a word of special advice, it would be to the colliery owners. They should, in order to rely on that absorption for their yield, have a large interest in such a concern, for assuredly if they do not, the trade will, sooner or later, pass to the first competitor who may interpose between them and the steam company formed for this enterprise.

R. M.

COLLIERIES AND COLLIERS—No. III.

SIR,—The state of a mine-atmosphere under such conditions is to be next considered. Mr. Vivian speaks of the internal heat of the earth as a phenomenon of no importance to the collier. In the deepest mines, he says, no inconvenience is felt from excess of heat, because the currents of air constantly circulating through them cool the rocks, and prevent injury to the populations whose business is to live and work among them. As the experiments which led to the discovery of the law of internal heat were made in bore-holes, through which no air could pass, the results, it is said, are inapplicable to mines through which an atmosphere is constantly flowing; the current being continuous so long as the descending column of air is heavier than the ascending. This passage of air through the heated rocks has a tendency to cool them, but the cooling is done by the absorption of sensible heat in the mine-atmosphere in which the collier works. The cooling process is slow, because heat continues to rise from lower ranges of rock and higher temperatures, but the absorption of heat by the air is rapid, and in deep mines may prevent work. Mr. Vivian says it is easy to convey fresh air to the miner at the great depths of which he speaks, "in such abundance, and at such low temperatures," as to "practically dispose" of the fancied interference of terrestrial temperature with deep mines. But if the possibility of thus sweeping the air-ways with a strong current of cool air, instead of the torrid blasts anticipated by science, were proved, the certainty of the intolerable heat of other parts of the mine would remain.

I may here suggest the importance of determining the temperature at which air should enter a mine. If cold air absorb heat more rapidly than those of higher temperatures, some advantage will be gained by admitting into the hottest parts of the mine atmospheric currents, artificially reduced if necessary, there to linger till the absorbing power is greatly reduced, and then to hurry their discharge. But let it be remembered that what the mine-atmosphere absorbs directly affects the collier, reducing physical strength, and possibly acting upon the vital powers.

Mr. Hull says—"The temperature of a coal mine at the depth of 4000 ft. will probably be found as high as 120°, but there is every reason to believe that by the agency of an effective system of ventilation the temperature may be so reduced, at least during the cooler months of the year, as to allow of mining operations without unusual danger to health." But if the rapid absorption of heat by an atmosphere be in some proportion to the lowness of its temperature when it enters the mine, it may be a question of vast importance to determine at what temperature it should enter, so as to prevent suffering to the workmen from an over-heated medium, as well as from radiation. The time of cooling depends on the temperature of the atmosphere by which the body is cooled, and the rise of temperature in the absorbing body is in proportion to the rapidity of cooling. If it be also true that the colder the air when it enters a deep mine the higher is the temperature when it has taken a long current in the air-ways and passages, no stronger or more serious objection can be raised to the possible success of deep mining.

In connection with this subject, it may be worthy of remark that in estimating the absorbing power of a mine-atmosphere it will be necessary to consider how much it may be modified by intermixture with other gases, some escaping from the coal beds and bituminous shales, and some developed by combustion and the presence of animal life. Other questions will be suggested to the man who seriously undertakes the investigation of the subject by experiment. It may, for example, be important to determine the law of atmospheric absorption in relation to the velocity of the absorbing body. In deep mines this velocity will be ever in part governed by the requirements of life and the demands of work, but it may be no less essential to place it under control for the regulation of temperature by a law of absorption. Attention will also be drawn to the investigation of the influence of physical structure and mineralogical conditions upon the conducting and radiating power of rock masses in the mine, and consequently upon the temperature of that circulating medium which is ever bounding and rebounding along their surfaces. If the aid of science be sought in these and many such enquiries, as a better guide to truth than guessing, it will give efficient instruction. But as rocks above and below the strata exposed in the open spaces of a mine have an influence, by conduction and otherwise, in the production of observed effects, the variations and exceptional phenomena of temperature in some localities will never be fully explained.

By way of illustration, it may be useful to trace the effects produced upon the atmosphere flowing through a few well-known coal mines of greater or less depth. We accept, in preference, those quoted by Mr. Vivian, though we regard them as exceptions selected to support his opinions, and not as illustrations of ordinary effects.

"Experiments in one of the collieries of my firm," he said, "conducted from May 25 to June 9, showed that while the mean temperature of the surface was 60°, at the bottom of the pit, at the moderate depth of 480 feet, it had fallen to 55°. The air then passed along the strata for 300 yards, and descended an engine plane till it reached the total depth of 1200 feet, at which point the temperature attained was 61°. When the air had passed through the workings, had done its duty, and had returned to the upcast, it was only 63°. Therefore, in an exceedingly large colliery, at a depth of 1200 feet, the actual addition to the temperature was only 3°. When the surface temperature was 67°, the air at the bottom of the pit was found to be 59°, at the bottom of the engine plane it was 64°, and just before it left the pit it was only 63°, or actually cooler than when it descended."

Mr. Vivian does not say when this colliery was opened, nor what differences of result have been observed when comparing past and present conditions. The size of the colliery proves that it has been opened many years, but as the phenomena are exceptional, the history is comparatively unimportant. Mr. Vivian will not, however, desire us to suppose that in the ordinary condition of mines, and at all atmospheric temperatures, the sensible heat is reduced in descending a pit 480 feet deep, though such an effect is frequently produced—that the air escaping from an upcast shaft has the same temperature within 1°, whether the air enters the downcast at 50°, 60°, or 67°, or that it is a customary condition of ventilation for the ascending cur-

rent to be colder, and, therefore, denser and heavier than the descending.

The deep colliery of Messrs. Knowles and Son, near Manchester, is mentioned by Mr. Vivian as another instance of deep mining without an inconvenient increase of temperature. "The air at 68° descends 2088 feet, and then attains the temperature of only 72°, and after passing all the workings only reaches 75°. Messrs. Knowles are of opinion that a very small proportion of the increase of 7° is due to the heat given off by the strata, but that it arises from the heat of men, horses, and lights." To the facts here mentioned no objection is made, they are in the highest degree honourable to the management of the mine, but as proofs or illustrations they are almost useless, for other data are necessary to determine their value. The age of the mine, which would give the time of cooling, is unrecorded—the temperature of the air from the upcast shaft in relation to the temperature when it enters the mine are unknown, and respecting the temperature of the air in close headings and chambers distant from the air-ways the reporter is silent.

The Shireoaks Colliery is mentioned by Mr. Vivian as another instance of low temperatures in deep mines. It is 1530 feet deep, and "the air which enters at 63° is only 69° when it makes its exit." This also appears a small increase of temperature for the depth, but Mr. Hull gives other particulars of the colliery, and the additional information he supplies is interesting. "According to calculation," he says, "the temperature in Shireoaks Colliery ought to be 77° 45'. The intake air (the air at the bottom of the shaft) was 63°, while the return air was 69°, or 6° higher, certainly a moderate increase of temperature, but, be it remembered, after a comparatively short circulation. In a goaf or chamber removed 7 yards from the air-current, the temperature was 72°, being an increase of 9° upon the intake air. Lastly, in a close heading, 80 yards from the air-current, the temperature was found to be 86°, or no less than 23° higher than that of the intake air. As the temperature of the return air which has passed through the workings was 69°, or nearly 10° under that due to the depth, we may conclude that the general effect of the ventilation would be to reduce the temperature by about 10°."

Enough has been now said to show the folly of approaching this subject with dogmatic assertion, as if the laws of Nature could be set aside by the necessities of human wants, and the commercial interests of individuals or communities. Experiments made in coal pits and along the highways of mines may not, in all instances, entirely agree with calculations, founded upon the ratio of increase in terrestrial temperature. But neither the existence of the law, nor the accuracy of the calculation, is disproved, because heat is absorbed by the atmosphere flowing through the air-ways. The mining engineer has been taught, perhaps by a lady's fan, that currents of air have a cooling effect on heated bodies, so he has provided for their circulation through the passages he forms underground, that they may sweep off and carry away the invisible streamlets of heat undulating through the subterranean atmospheres, like feeble sounds upon the drowsy air of night.

We have yet another possible source of increased atmospheric temperature to consider. The weight or pressure of a volume of air gives an increase of density to the lower strata, and density develops sensible heat. When air, for example, enters a deep pit, the density and the disengagement of sensible heat, which is a consequent or attendant phenomenon, increases in proportion to the depth. In a column of air the temperature is easily measured, but the effect is no less evident when a bar of cold iron is hammered on an anvil. Experiment has proved the increase of temperature in a column of air to be 1° Fahr. for 300 feet in depth. This being true—and who shall doubt truth in figures, and constancy in the laws of Nature—the increase of temperature from increase of density at the bottom of a vertical atmospheric column, 8000 feet deep, is equal to 26° Fahr. But if we bear in mind that we are speaking of an elastic fluid, we discover conditions which have a tendency to prevent the increase of density, and, consequently, the development of that sensible heat of which it is the attending phenomenon. When a current of air enters a pit, the absorption of heat begins so soon as the temperature of the rock is higher than that of the descending column of air. The effect of this absorption of sensible heat is expansion, by which an increase of density is resisted. I cannot, therefore, agree with Mr. Hull when, in estimating the probable temperature of deep mines, he adds the degrees of sensible heat resulting from increase of density, to the estimated temperature by absorption from the heated strata through which it passes. To value the effect of every condition that disturbs the temperature of a mine atmosphere, without relation to the modification of condition by other causes, and to take the sum of their individual operations as a fair representation of the effect to be anticipated from the combined action of all is, I think, a blunder. In the instance just mentioned the error is apparent. Without attempting at present to measure the result of these two opposing forces, or assuming that one exactly resists the other, it is evidently inaccurate to measure the rise of temperature with density, as if gravitation were the only force, or independent of the antagonistic activity of other agencies. It may also be worthy of remark that if in a deep pit there were a constantly increasing atmospheric density the momentum of the air in its underground channels would be greater than it is; but to the conclusive, unimpeachable testimony of the barometer this important investigation must be referred.

* In last week's Journal, p. 470, third column, five lines from bottom, when speaking of the dangers to which colliers will be exposed in narrow and confined spaces, it should have been said—"in working at the depth of 8000 feet," &c.

[To be continued in next week's Mining Journal.]

ON FOSSIL REMAINS.

SIR,—No sooner does Nature attain to its highest beauty and perfection than we behold the symptoms of decay. These we are fully prepared to look for in the works of man—his noblest productions are admired but for a moment, and the finest specimens of his skill bear with them the principle of corruption. But we are surprised when the earth evinces its mutability, when its mountains subside, when its loftiest rivers cease to flow, and when its loveliest scenes are blighted by the hurricane and the storm. Where in centuries past the inhabitants of a burning clime sought shelter from the noonday rays in every friendly covert, there is now the dreariness of winter. Man himself has left untenanted those regions which he once possessed, and has resigned his dominion to the wild beasts of the forest.

While the contemplation of the sublime propositions of astronomy enlarges our understanding, the world on which we dwell affords ample scope for our powers, by exhibiting to us those members of the animal and vegetable kingdoms which have long been extinct, and by conducting us back in imagination to the time when darkness and chaos overspread a slumbering universe. There are good reasons for supposing that our earth has been in existence for numerous ages, not only from the facts afforded by the science of geology, but likewise from those remains so often found embedded in the unyielding rock. The forest found buried in the soil, with its massive trunks fast mouldering to dust, is a source of pleasing speculation to the philosopher; even if he had viewed it in its pristine state he would have passed its groves with veneration; what, then, is his sensation when he reflects on the time that has since then elapsed?

England has given to science some of the rarest specimens of fossils. The numerous and large excavations made in different parts of this country have been the means of throwing considerable light on its natural history. The caverns at Kirkdale, in Yorkshire, are much celebrated for the variety of remains found there. On examination, Prof. Buckland discovered of carnivorous beasts, the remains of the tiger, hyena, bear, &c.; of pachydermata, the rhinoceros, elephant, and others. On surveying such examples as these, we are convinced that numberless changes must have passed over the world. That animals whose nature is only adapted to the heat of a tropical climate should be found in a fossil state in the islands of the Northern Ocean appears almost inexplicable, and it must be either admitted that some catastrophe, such as an universal deluge, removed them from their natural sphere, or there has taken place a radical change in the temperature of certain countries. It is well known that the internal temperature of the earth has often much more calorific to the exterior atmosphere; and this might undoubtedly tend to produce changes in its climate. The presence of fish crustacea in the hardest rock, and remote from the ocean, cannot be fully accounted for by

the Mosiac deluge; the most probable supposition is, therefore, that there have been great and universal revolutions in animated nature, and in these have been formed, it would seem, as many distinct creations, each one testifying to the skill and omnipotence of its Creator. We are thus led to suppose that man is comparatively a recent inhabitant of the earth, that ages before his appearance the world was peopled by vast numbers of living creatures, and that the stagnant ocean teemed with life.

Before the creation of man there seems to have existed a species of monsters whose figures appear to us so contrary to Nature's laws as to make us regard them with that abhorrence with which we view the dreams of a disturbed mind; and, indeed, it is quite incredible to suppose that man could have lived in happiness among creatures of such hideous formation as those of which remains have been discovered in the strata of our globe. What would have been our sensations when the very air we breathed was the element which was made the vehicle of their transmission? when every grove that adorned the face of the earth might form the resort of creatures the most terrible and voracious, against whose attacks the arms and ingenuity of man would be comparatively unavailing? Can we suppose that the all-wise Creator would have placed the noblest monument of his beneficence and power in a position of such pain and discomfort? The darkness and devastation which covered the universe before the creation of this class of animals; but when man appeared it was expedient that they should be banished from creation, so that harmony and beauty should be everywhere present. And it may be observed that these speculations are not opposed to the Mosiac narrative. We are told that "In the beginning God created the heaven and the earth," but it is not told us that this beginning signifies. The veil of mystery thrown over the science of geology would induce some to shrink from its consideration; but the enquirer after truth may examine any theory, and any fact, without fear of injury to the cause either of sound religion or of true science.

When we meet with some massive piece of architecture in the recesses of the earth, we admire the genius and the perseverance of those by whom it was framed. The researches made by geologists have revealed some examples of power and skill of which we had previously no conception, and we should acknowledge the hand of their Almighty framer. Each successive era of our world seems to have witnessed the production of creatures of more symmetrical and perfect natures than before, and the mind of man finds here so ample a field for the exercise of his powers, that after a long life of well-regulated study we think he would have to confess that the great facts of the natural history of the globe were yet unknown, and that all his research, after establishing a few truths, terminated at last in the labyrinth of doubt and speculation.

ALEXANDER HAY.

Caothor, via Ferryhill, July 28.

DISCOVERY OF WULFENITE, &c., IN PEMBROKESHIRE.

SIR,—It may be interesting to some of your readers to know that I have lately discovered in Pembrokeshire small, but well-formed, tabular crystals of Wulfenite (molybdate of lead), at the Treffarn Rocks, between Haverfordwest and Fishguard. They occur in small cavities, which are irregularly dispersed through the rock (a felstone, according to the geological map of the district), are of a brown, or honey-yellow colour, semi-transparent, with the edges bevelled, and in form answer to fig. 5 in Phillips' "Mineralogy" (4th edition). I also obtained a substance of a greenish-grey colour, disseminated in small veins and patches, which is probably the same mineral in a massive form. Minute, but exceedingly perfect, crystals of tin likewise occur, similarly to those of the wulfenite; but, as far as I have been able to observe, in a separate portion of the rock.

I may as well mention that I have recently found some fine black crystals of blende (sulphide of zinc) at the tunnel near the Patehay Station on the Bristol and South Wales Union Railway. I am not aware that this mineral has been met with before in Gloucestershire, or the neighbouring counties. SPENCER GEORGE PERCEVAL.

Henbury, Bristol.

FORMATION OF CARBON, METALS, &c.

SIR,—In the Journal of June 30, I asked the following questions:—
1.—What is carbon?
2.—At what era of the world did it make its first appearance?
3.—Could there be living animals or vegetation on the earth before carbon lime rock formed?

Not receiving a reply, I have applied to professors of geology and school teachers, but they do not appear disposed to give any satisfactory answer; and having called on Mr. Tennant, who I found inclined to be very conversant on many subjects, I took the liberty of sending him the following letter, a copy of which I also forwarded to Mr. Hunt, of the Jermyn-street School, by way of having these things investigated and laid before the public, as a guide to the mining Practical and Student:—

SIR,—Thinking over your remarks of Saturday, I remember that you said "some clays contained over 50 per cent. of alumina," which observation rather surprised me, seeing the purity of the metal you showed. I notice the sapphire, which is a stone, or rather a glass, said to be composed of 98 per cent. of alumina; this is within two parts of the pure metal itself. Then, the Oriental ruby is over 90 per cent. alumina, and this also is a stone. Can this be correct? Is it possible for a pure metal to be turned into a stone by the amalgamation of only 2 per cent., to alter a substance so much? If so, what is this 2 per cent. that has crept in? If this is correct, we have every reason to come to the conclusion that by the same law the diamond is a metal turned into a stone, and which is said to be nearly pure carbon. Then, I ask, do all metals form precious stones? Have you any idea what metal formed the diamond? If alumina will form the sapphire, that may be called a diamond, with only two parts from the metal itself, gold and platinum and all other metals should form some kind of precious stones or diamonds under the same law. Would not this be worth the study of your schools? Should you make only one such discovery it would be a stated law, and particularly so if you discovered the diamond was produced from gold or platinum. The diamond being inflammable, could it be formed from sulphur or yttria? As carbon is an inflammable substance, but no one will tell me what carbon is. For what anyone appears to know it may be gold or platinum changed, as the metal alumina must be to form the sapphire or the Oriental ruby, which are only stones, and these must have been formed from moving atoms in gases. Silica I believe to be, like clay, a metallic oxide. Sir H. Davy battled with all of the so-called nine earths; he found three or four produced metals, but he could not conquer silica. Were you to bring out the metals of one more of these earths, and the Mining School another, we should be in a fair way of developing Nature's laws, a knowledge of which at present is so much needed.

I am a well-wisher to, and a great supporter of, the progress of Science. Still, I must remark that there appears something singular as to how and where the diamonds and other precious stones are formed, and what from. I never saw or heard of one of the diamond specks having been found in rocks or veins. They are all, I believe, found in alluvial soil, and, like gold, down near the rock. I have ever believed they were formed where found, like the nodules of iron in clay. In that case it appears to have passed to the place where found as an accidental gas. The mineral of the day being England's principal support, I ever contented that it is the duty of those attempting to teach geology and mineralogy to get a careful analysis of all the earth's known layers in England, and lay them down in books, to guide their students, and more particularly the Practicals. It might be done in other countries, but I propose that it should commence in England; it would tend to nearly define the position of every layer of rock, far better than all the shells, and become a most useful guide as to what the contents of the strata should be to bear metals. This would aid the Practicals, and would be a step in the right direction. I may notice that the colour of rock is not of much consequence, as that mostly depends on the quantity of iron it contains; this is little or no guide. The Old Red Sandstone in Devon is nearly blood red, and the same layer in many parts of the world is white or yellow; this mostly depends on the iron it contains. The guide to know any layer is, from the assay to deduct the parts of iron it contains; the residue gives the stratum, and to know if it is mineral-bearing or not. I am now writing my own views on geology and mineralogy; also on lodes, veins, and gossans, with north and south cross-courses or arteries, and the faults and causes. I have for some time past been anxious to obtain the analysis of Cornish granite near good copper lodes; and again, where there are no lodes, and if any unproductive ones. I can get no answer to this question from any of the teachers of geology. I did get one from Scotland, but that is not what Cornish men call granite; it is only Cornish and Devon granite that bears tin. Then, I say, school teachers should also give an historical description of the eleven courses, showing their size, bearing, contents, and effects on lodes; next, give maps of the great known shifts of metallic veins that meet against them, when it will be found that it is not one general north and south shift or move, as generally supposed, but that nearly every shift varies in distance. Such a work would be worth purchasing by even Practicals. Then let them find about the angle of dip of all the lodes worked on, and show their dip into the earth as far as man has seen them, and put down all others on supposition to be about the same. This would show how the earth's crust is cut up. I notice every true plan or section given on the up or down throws of coal prove that more is to the point of the A up or down; none save myself have laid it down as a law. I wish I could see some bright youth rise like a morning star from amongst such a costly flock as England is now supporting. I should not be inclined to oppose, but, on the contrary, to assist and aid, such a bright and rising youth.—N. ENNOR.

Having been called on from every part of the globe for over ten years to give my views generally on the formation of the earth, with its stratification, arteries, veins, elvan courses, metals, minerals, and gossans, showing what are ore-bearing lodes—maps showing the moves or shifts

of lodes and coals—remarks on the formation of granite and slate, with explanations of difference between the old metamorphic and new transition rocks, and how produced—remarks on gaseous atoms and their equivalent parts, and how united, giving many plans and diagrams by way of illustration—with my general views on mines and quarries, and how to work them remuneratively. In publishing my views I disdain to collect them from books, as is generally done by theorists. I write from 60 years' hard practice in different parts of the world, and without fear of contradiction by any man. I am open to meet anyone who has had practical knowledge on any one of my subjects. I court opposition, as it tends to bring out facts, confining myself generally to what I know and think are the most essential points for the practical miner to know. There are a few things I have laid down that should ever be the miner's guide. First, that everything in Creation, whether it is the earth generally, or its rocks, layers, minerals, metals, gases, acids, animals, vegetables, or the air they breathe, all originate from a very few substances, and all from nearly the same; and these are ever changing—nothing is stationary. The earth has its laboratory with arteries and veins, much as man, through which all moving matter, or I may say all Creation, passes or repasses from or to the earth's great laboratory; every analysed substance is from there sent through its proper passages to the point required. N. ENNOR.

COAL AND OIL AS STEAM FUEL.

SIR,—To my great surprise, I learn by "Engineer's" letter that in using shale oil as steam fuel I intend to turn the furnace-room of a steam-vessel into a distillery, and to make the oil before I use it. Certainly, if engineers can well distinguish the possible from the impossible, there are none who can more coolly bring forward the latter when answering an "Inventor." His remarks about prices, and in the results of the Woolwich petroleum boiler, are about as correct as they are similar in spirit to those he gives on distilling. The struggle of King Coal to maintain his majesty of rule will be a severe one, but I believe the time will come when there will not be such a thing known as a sea-going vessel carrying coal for fuel; and that others are of my opinion, permit me to give the words of a well-known most eminent member of your correspondent's profession, premising that on this subject he goes rather further than I do:—

"To the savage man fuel of any sort, or its use, are incomprehensible mysteries; to a not very remote generation of our ancestors coal, as a substitute for wood or peat, was held a mischievous and deleterious refinement. To some at the present moment the substitution of liquid coal (for what is petroleum but that, minus a little carbon?) presents itself as an equally absurd and preposterous, because new, attempt, yet we venture to predict that a not very distant age will see coal as fuel employed in no other shape but after preparation, and either as liquid hydrocarbon distilled from the raw coal, or as carbonic oxide, and other combustible gases produced from it, and used alone as fuel." C. J. RICHARDSON.

LOW PRICE OF TIN AND COPPER.

SIR,—The remedy for this evil, which is afflicting the population of the mining districts of Cornwall with misery, ruin, and starvation, is simple and easy. Put a heavy duty, (say) 20s. per ton upon Dutch tin, and a proportionately heavy duty upon imported copper ores, and prosperity would soon revisit the mining districts in question, at present desolated by the "blessings" of indiscriminate free trade, which the short-sighted policy of its advocates has introduced. The policy is this:—The foreigner, with natural advantages greater than ours, is invited to come in and undersell us, and this he has done, and is doing, to that extent that the industrial population of a whole country are being driven into exile, as their only escape from starvation at home, and the skilled labour thus expelled from our shores goes to develop the already overwhelming productiveness of foreign mines. In short, when England has driven its skilled operatives to every quarter of the globe to seek the means of subsistence denied to them at home, she may find too late that she has thus made all the world as wise and as full of resource as she is now herself, and then the world will do without her. As far as the United States are concerned, this era is rapidly approaching. England's skilled workmen are her true source of wealth, and whoever obtains them will not long need to be aided by her exports. Her political economists, no doubt, will say, never mind ruining a county or so if we only benefit the mass of the population. That is, starve and expatriate the poor Cornish miners, in order that the community may have their tin and copper at a minimum cost. Were this profound principle fully carried out, it is hard to say what might be the ultimate results.—July 31. R. MUSHET.

INVENTIONS, AND OBSTRUCTIVE PATENTS.

SIR,—My friend, "Colliery Engineer," is again inaccurate in his statements. I remarked that one of my processes, in conjunction with Mr. Bessemer's pneumatic process, would enable the Bessemer Company to secure royalties to the amount of 200,000l. for the "present year." But "Colliery Engineer" alters my statement, and distorts it to mean 200,000l. per annum. Next, he intimates that when he spoke of my iron patents he meant my Bessemer steel patents; but here, again, he blunders, for most of my patents refer to steel melted in crucibles, and not to Bessemer steel. Again, though he said my patents related to iron, he now affirms that they related to something which it is agreed upon is not steel, but iron, and he then defines this kind of iron as a highly refined pig-iron with some of the properties of steel. This is a most novel and singular definition.

I am free to admit that men who never had an original idea do, indeed, often reap fortunes from the patented processes of inventors, who themselves have had their labours for their pains; but there are exceptions, and the most remarkable exception at the present day is Mr. Bessemer, whose success has been as great as is his invention. If, however, "Colliery Engineer" can prove his first rule to be invariable, then I may, with justice, claim to be a great and original inventor, for though I have enabled many, through my inventions, to realise fortunes, I have myself reaped nothing but hard work, anxiety, and disappointment. The railway interest, present and future, will owe me a large debt of obligation for having enabled them, through my spiegeleisen process, to lay down steel rails, rendered malleable and durable, by the addition of spiegeleisen to Bessemer metal, in place of the too often to be replaced iron rails which form the present staple of the permanent way, so called *Lucas a non lucendo*, which so fearfully curtails the dividends on railway stock. Most likely the railway interest will, like Mr. Witterly, "continue to owe this debt of obligation;" but it is, and will be, none the less due to me for my invention, and, perhaps, some day, when dividends increase, they will remember the obstructive patentee, who, with Mr. Bessemer, has given them durable steel rails. "Colliery Engineer" comes out well in his hit at the Titanic, on whom he has heaped a sort of Pelion and Ossa of sarcasm, which they, indeed, must be tight 'uns if they did not groan under.

And, now, as to the billion blunder, why was it made in numerals, and clenched, as it were, by the confirmatory verbal statement? The clerical error seems nearly as large as the deposit of coal. But wonder of wonders, "Colliery Engineer" tells us that if 150 million tons of coal is the quantity actually indicated, it would show the seams in round numbers to average 20 ft. in thickness—that is, an average thickness of 20 ft. for each seam; and this, says he, is not an unheard of thickness in other collieries. Banish your fears, ye anxious-minded advocates for posterity! "Colliery Engineer" has collieries for posterity enough, and more than enough, and the seams thereof average 20 ft. in thickness. This, fortunately for posterity, is no clerical error. Happy thought, fortunate posterity, our greatest possible grandchildren will yet be able to have a bit of fire to warm their toes at. July 31. R. MUSHET.

BORING-MACHINES—ECONOMY IN MINING.

SIR,—Having had much experience in carrying on operations in rock, under the worst circumstances, I have been led to consider if anything could be done to lessen the expense of excavating therein. There are different ways wherein improvements may probably be made—among others, that of using a stronger combustible material in blasting than the ones now generally used. The difference between the execution performed by best gunpowder and the ordinary powder used is very great in favour of the former, the quantity of rock displaced being far greater for the same cost; similar results may be obtained by the use of other descriptions of combustible materials. In the introduction, however, of stronger combustible material for blasting purposes a very important question has to be attended to—its relative safety to life and limb as compared to the blasting material now in general use. Comparatively few as the accidents that now take place are through blasting, yet they are, unfortunately, too numerous, and, unless any explosively stronger materials are rendered equally safe as that now in general use, it would not be justifiable to introduce them, on that ground alone. Another, and by far the most important view of the subject, is to multiply

blasts by combustible materials that are comparatively safe. The greater number of advantageously explosive deposits that can be done by manual labour is being achieved, and it, therefore, follows if that number is increased it must be done by mechanical power. The simple question, then, is—Can machines be successfully brought to bear underground for the purpose of multiplying the number of blasts, so as to hasten the extension of operations, and thereby lessen the cost?

Having for several years considered the ponderous difficulties that lie in the way of successfully introducing machinery underground, in metallic mines, and given much study to the nature and construction of the machines required to answer the end, I not only come to the conclusion that machines can be successfully brought to bear to bore holes, but that they certainly will be, and that, too, in such an effectual manner as to enable adventurers to reduce the cost of working the majority of mines to the extent of some 40 or 50 per cent.; notwithstanding, I am fully aware of the fact that mine adventurers and agents take a very sceptical view of the matter at present. There are no arguments whatever required to convince those interested in metallic mining that they must raise minerals at far less cost to pay a fair interest on the capital employed, particularly at the present prices; and whatever the prejudice may be at present against the introduction of boring-machines, if it can be fairly shown that machines can be brought to bear so as to effect a tangible saving, that prejudice will vanish.

Wenford, Bodmin, July 30.

GEORGE RICKARD.

MONTES AUREOS (BRAZILIAN) GOLD MINING COMPANY.

"AUDI ET ALTERAM PARTEM."

SIR,—Having only lately become aware of the superabundance of abuse and blame that has been showered upon me on occasions when I could not defend myself, face to face against my accusers, I beg to remark, for the present, that I trust most of my accusers, on conscientiously and honestly examining the grounds of their accusations, will find that they have not dealt fairly by me—that they have been misled. Not even now can I find that the essential statements made in my original report were not true; what I called samples were really bona fide samples—the greater bulk of which gave only traces of gold, others yielding 0.025 oz., 0.025 oz., gold per ton of ore; none yielded more than that.

I have had to form a large establishment in a wilderness far inland, utterly destitute of all resources, and attended in every respect with unprecedented difficulties, scarcity of labour, &c. I have conscientiously worked hard and risked much, and the establishment as it now stands may bear testimony to the soundness or otherwise of my "theories and fancies." (Vide Capt. Martin's letter in the Journal of Feb. 24.) Certainly a great deal of our working forces and energies had to be unavoidably diverted towards repairing and strengthening the dams of Capt. Martin's large reservoirs, which were rather shaky, on account of having been constructed *minus a foundation*, not to mention the, perhaps, excusable absence of puddle-walls. The old water-stops, erected by the former "practical" management, condemned themselves by being choked in their own waste sand, owing to their being placed too low, in the very bottom of the valley, with hardly any fall for water and sand. They can only be made to work permanently by separating the stamps axle from the water-wheel axle, and connecting them by means of iron wheels, or other gear, thus bringing the stamps some 8 ft. higher than they now are. Instead of the old levels erected by the former company, we erected dwellings on carefully-selected sites, so as to insure the best sanitary condition. (Vide, first medical report.)

The rate of deaths under former management was, I understood, about 10 per cent.; under mine it was scarcely 1 per cent. With an agonising scarcity of working force, a port had to be opened, a river cleared for many leagues, a cart road made more than 20 miles long, through a dense virgin forest of hard trees, with numerous ridges, in order to convey to the spot the heavy machinery, a great part of which is now erected and working at Montes Aureos. The "Mocambicos," or bush negroes, who haunted the neighbourhood, I turned, after some accidental personal encounters, from a source of insecurity and danger into a source of labour for us. And during all the time I was there I managed to prevent the poor fugitive slaves from being hunted down and shot like wild beasts, as they were under the old management.

Besides having to found a whole extensive establishment, such as it now stands, we managed to extract in three years, from very poor stuff, about as much gold as Captain Martin, who had the pick of the ground, managed to do with a numerically larger force of hands, in a greater number of years. At any rate, Capt. Martin ought to have made himself first better acquainted with the works carried out under my "gross mismanagement" at Montes Aureos and vicinity, before calling my plans "theoretical" and "fanciful"; and the fact that I had not immediate success in creating a paying establishment, in a district where, for thousands of miles around, no other mine establishment exists, and that a premature exhaustion of the company's capital caused the collapse of the concern, does not justify Capt. Martin to join the throng of my inconsiderate and rashly judging accusers, especially as in my non-success I have not the soothing consolation of having derived personal pecuniary advantages for myself. I had nothing whatever to do with financial arrangements in connection with the Montes Aureos Brazilian Gold Mining Company, beyond refusing a bribe, which some dishonest members of the Brazilian vendors offered me for the purpose of inducing me to recommend an additional expenditure of the company's capital; and I have no doubt but what those individuals have not left a stone unturned to influence against me whomsoever they could impose upon. I certainly was unable to impart a higher percentage to the mass of stuff we have at first to work upon. I fully agree with Captain Martin that the concern should not be rashly abandoned without further trial, but the ground should be more explored at surface and in depth; several pits should be sunk; cross-cuts made in search of pyrites beds, of the existence of which we find strong indications in several spots; and I may here record my opinion that some such beds will be hit upon at no great distance from the first pit, which was commenced under my management, and under Captain Leach's, and subsequently Captain Robert's, and immediately after my attendance. I ask no favour, I ask only fair-play and justice.

London, July 28.

GUSTAV JULIUS GUNTHER.

DYFNWGM MINE, AND ITS MANAGEMENT.

SIR,—In your Notices to Correspondents there are almost weekly allusions made to Dyfnwgm Mine, and also mention made of, and remarks on, a printed letter by an "Ex Officio." On the face of your own remarks I presume you have perused that letter.—You have, however, extra judicially delivered judgment against myself as manager. The question has been put to me why I allow these articles to appear weekly without being challenged? My answer is very simple and short. In the first place, I have attended during the last two years almost every general meeting of the shareholders. During the past three months I have attended three such, at which the business of the mine was fully discussed. The usual way is for such matters as "Ex Officio's" charges to be brought forward in person at such meetings. He was not present at one, and the shareholders, therefore, and for other reasons, satisfactory to themselves, refused to discuss the subject matter of "Ex Officio's" letters. Furthermore, at the last meeting permission to reply to those letters was refused me. So long, therefore, as I remain an officer of the company my hands are tied, and this short communication is necessarily addressed to yourself. In reading "Ex Officio's" letter, did you put the question—to yourself, of course—whether the contents were true or not? I have no hesitation in saying the greater part is *not true*. Such being the case, I put it to your spirit of candour whether you are justified in permitting yourself being made the vehicle of these attacks, especially when I am precluded by my superiors from defending myself.

I take this opportunity of publicly thanking those able men who, though quite unconnected with me or the mine, have kindly volunteered their services in my defence. At the present time I shall not avail myself of them. I shall, however, at the proper time, take my own course in my own defence. When I consider the means at my disposal, the difficulties I have had to contend with, and the extraordinary mining times we are going through, I have not the least reluctance in subscribing myself in full. EDWARD DAVIES, Manager of Dyfnwgm Mine.

Dolcraedog, Mochynlleth, Aug. 1.

[ADVERTISEMENT.]

PRINCE OF WALES MINE, AND SUCCESSFUL JOBBING.

SIR,—We are enlightened by last week's Journal as to the real cause of the altered value of this mine, and from the various fragments deductions tolerably correct are easily arrived at. There is, first, an organised scheme to buy up some 3000 or 4000 shares cheap, as many as possible from holders tired of paying calls, and glad to sell at 3s. or 6s., and all possible (and these are preferred) from dealers on the market, who unsuspectingly make prices to buy or sell as usual, not knowing that the ordinary chances of balancing their share accounts are for the time designedly cut off. Having succeeded in buying a sufficiently large number for their purpose, the next move is to run them up to the highest possible point consistent with their own safety, and then by inflated advertisements, and the most exaggerated and mystifying statements, and with proclamation of the most virtuous motives, the part of the operators, to induce the unsuspecting to buy at extreme prices; and, to facilitate the operation, the Baby Mine, yet in swaddling, is affiliated on to any respectable adventure within a seven mile circle. In this way such a mine as Devon Great Consols is made to answer for a large share of wickedness, being literally surrounded by abortions.

The rise succeeding, the unfortunate dealers who got caught in the trap, and unwittingly contributed to the plot, are then designated "bears," and are abused by the immaculate performers like pickpockets, who proclaim loudly the great good that has been turned up for "One and All," though a little scrutiny shows plainly that the benefits accruing are for "One and Party;" and with that exception the "All" are the dupes, and friends who get saddled with shares in their fervent excitement, but who usually find sufficient after-time for better reflection. It is quite likely that the so-called "bears" meantime suffer temporary inconvenience, but amongst a body of shareholders there are always a good sprinkling of shrewd business men and astute speculators, who know when to convert shares into money without reference to "bull" or "bear" skirmishes, and the thick of the fight is their harvest, and then the meshes of the "bears" are loosened, the sufferers are the friends who got baited into buying "results,"—a very praiseworthy object indeed, and may all good mines always find friends: as to jobbers holding on when they see good profits, that may be told to the marines.

MENTOR.

SUPPLY OF PURE WATER.

SIR,—If there is one thing more than another that demands the attention of public officials, it is that of seeing that a plentiful supply of wholesome pure water is distributed, particularly to the great masses of the working population, who are obliged to be content with that which is supplied, be it good or bad; for it is most certain that large quantities of water are sent out for con-

sumption which are nothing more or less than "river, stream, and sewage mixtures combined." It has been shown that the filth and sewage of nearly sixty towns, villages, &c., are daily discharged into the Thames from Oxford to Teddington, and which is daily pumped out for human consumption after being filtered and made clear, but certainly and assuredly not wholesome, for this is a fact proved by the presence of the same filth and sewage in the surface wells of London are still worse in their characters or qualities, although to the eye clear and limpid; and it is this unfortunate "false appearance of purity" which is producing the dire consequences reported by our eminent medical officers and Boards of Health. It is to be hoped that none of these will shirk their duties by running away to the sea-side, but manfully and boldly meet the surrounding evils by determined resolution and energy in providing temporary remedies and preventives, and then establishing "permanent provisions of pure water" for a prevention of future evils.—*Dorset-place, Holloway, Aug. 1.* W. AUSTIN, C.E.

AN EARNEST APPEAL FOR MR. W. H. JAMES, C.E., THE RAILWAY PIONEER.

SIR,—You will render a service to Science and Humanity by allowing the following extraordinary announcement to appear in the columns of your valuable Journal.

THE LATE VOLUNTEER REVIEW AT BRIGHTON.—"The volunteer staff corps could now in the space of thirty hours place on any given spot in the kingdom 150,000 troops, 60,000 horses, and 100 guns. The same corps could collect together in 24 hours 80,000 navies to throw up fortifications. What could the enemies of England ever do against such a force instantly at command? and all this is due to the successful organisation of railways."—*Times*, April 3, 1866.

Can it be believed that one of the Fathers of the Railway System—the founders of all the railways in the world—Mr. W. H. James, is at this moment threatened by his landlord and the tax-gatherer with the sale of his furniture, imprisonment, and ruin, from inability to pay his rent and taxes? He and his father, the late William James, of Warwick, lost a fortune of 200,000l., all sunk in scientific and engineering labours to found the railway system—a system which enables the Sovereign to travel with ease in a few hours from one end of the kingdom to another, and the world, with all its commerce and pleasures, at half the price, and in as many hours as it formerly required weeks, months, and years to accomplish.

Devoting all his time and energies recently to the invention and construction of an engine which will bear a pressure of 600 lbs. to the square inch, will occupy a limited space, and require only one-eighth of the usual quantity of fuel, his landlord and the tax-gatherer have come upon him while thus employed—a man nearly eighty years of age, and on the point of starvation for want of food—a man to whom the present and coming generations are indebted, and who ought to live rent free, and have a free ticket on every railway in the world. Such a man his landlord and the tax-gatherer are about to render homeless and homeless. To save him from such a fate, Capt. Milne, Stanhope Villa, 17, Pembroke-road, Kensington, will repay to the patriotic, humane, and benevolent 150l., the sum immediately wanted, or any part of that amount, which they may contribute towards the object. Who will come forward and thus assist to wipe out the disgrace of a nation's ingratitude? A more extraordinary instance of the world's neglect never appeared in the pages of history.

P.S.—Since the above was written, Mr. James's furniture has been sold, leaving him nothing but the walls of his house for shelter, the beads to lie upon, and families for his pillow; while nations through him, fed to the full and clothed in silks and crimson, travel with the fleetness of the wind, and lie on beds of down. Contributions in money, or money orders, may be sent to Mr. W. H. James, C.E., 844, Old Kent-road, London, South, where the venerable old man may be seen in his desolate habitation.—*July 31.* R. L. MILNE.

Meetings of Mining Companies.

THE PRINCE OF WALES SLATE COMPANY (LIMITED).

The ordinary general meeting of shareholders in this company was held at the company's offices, 13, Old Jewry Chambers, on Tuesday, to receive the report and balance-sheet for the past year, to elect two directors in the room of the retiring directors, and to transact the general business of the company. In the absence of Lieut.-Col. H. Garnet Man, CHARLES DOWNES, Esq. (another of the directors), took the chair. The notice convening the meeting having been read, Mr. THOMAS HARVEY (the General Manager) read the following report and balance-sheet:

The directors, in presenting to the shareholders their report for the past year, are pleased to be able to announce the satisfactory progress of the slate quarry, which has already, throughout the principal part, taken the position claimed for it in the last year's report, as a first-class quarry, and one which will undoubtedly, year by year, largely augment its returns and profits. A satisfactory arrangement has been made with Mr. Huddart for the gradual payment of the purchase money for the royalties, and the compensation for surface damage. A portion of the amount, as will be seen by the balance-sheet, has already been paid, and also interest on the remainder at 10 per cent. A further sum is intended to be paid shortly, and the expiration of the twelve months from the period when the arrangement was made, and the necessary deeds and leases have been executed, and the company's title is complete and intact. Although for the present these sums are taken out of the capital of this company, it is intended to re-pay the whole to capital as soon as the amount can be obtained by borrowing, or by the sale of the copper mine on the newly-acquired property, which is believed to be very valuable, or by the sale of a large and valuable vein of slate, also in the newly-purchased land. A royalty will be reserved in each case, and the balance of the property may be disposed of. The critical state of monetary affairs now, and for some time past, the only reason why nothing has been done towards realising these valuable adjuncts of the company's property—a difficulty which no precaution or foresight on the part of the directors could have averted or overcome. About 10 tons of copper of high quality have been broken from the lode as a sample, and are now on the mine. Between Nos. 3 and No. 4 gallery the sink has been opened to the bottom 18 yards deep, and extended on the course of the vein east and west about 20 yards, and has thus formed a considerable size, in which slate bargains are being regularly worked on both sides of the opening. The rocks of the greatest purity and fineness, and the best slates ever seen in the quarry are now being made from this sink, which is, in point of fact, a new quarry altogether. Slate-making sheds have been erected on the bank of No. 4 gallery, and two of Francis's dressing-machines have been erected there, and are in full work, in addition to the three on No. 3 gallery, which were in operation last year. Between galleries Nos. 3 and 4 a similar shaft has been sunk and level driven. The junction there is nearly completed, and before another year will have elapsed a large amount of slates may be expected to be returned from this place also. The galleries 2, 3, 4, 5, and 6 have been considerably extended towards the mountain, and large quantities of slates can now be made from the area cleared before any further considerable extension will be required. In the report of last year, at page 9, it was stated that there were "about 300 tons of slates on the quarry, and sent down to Caernarvon," and at page 13, of the same report, it was further observed "it may also be reasonably expected that within the current financial year the value of the produce of the quarry will exceed the total cost of working and development." This result has been accomplished, for in the month ending on June 30 last, being the end of "the current financial year," there were made in the quarry 105 tons 7 cwt. of slates, of the value of 231l. 2s. 7d., while the cost of working and development, including 30l. and upwards for local salaries, shipping expenses, and road making, was only 231l. 3s. 11d.

Instead of the 300 tons of slates referred to in the last report, which were worth about 600l., there have now been manufactured 739,000 slates, or nearly three-quarters of a million, the total value of which is 2616l. 10s. 9d., being on the average upwards of 3l. 10s. per thousand on all slates made, from the commencement of the quarry to the end of June. As a result, as the directors believe, without a parallel in any quarry in Carnarvonshire. There is not yet direct railway communication with the quarry; but the Llanberis Railway Company, whose Act for the purpose was passed in the last session of Parliament, are expected to commence their branch line to a point near this quarry, as soon as the present financial crisis shall have passed away. An incline is being formed at the quarry, for the purpose of taking down the rough slabs for supplying the machinery, and bringing back also the manufactured slabs, to deliver them at the top of the quarry for carriage to Caernarvon. The heavy part of this incline, which is over 300 yards in length, is finished ready for the rails and ballasting, and this work has been carried out in the most substantial manner. The remainder, now in course of construction, consisting of 356 yards of intermediate railway and 225 yards of incline, are comparatively light. The balance-sheet contains an account of the slates sold, and the value of stock on hand. There is also an amount of 1070l. still due on the purchase of the east vein by the Princess of Wales Slate Company (Limited), as well as 366 of that company's shares, with 5l. fully paid. The directors do not recommend any division of the profits made on the sale and sale of slates on the present occasion; and trust that the exercise of forbearance on the part of the shareholders will now enable the directors to carry on the business of the company with greater facility, and that from this time they shall be enabled to pay regularly increasing dividends. Two directors, Lieut.-Col. H. Garnet Man and Mr. Charles Downes, retire at this meeting, and being eligible, offer themselves for re-election.

The CHAIRMAN, in a lucid and explanatory speech, moved the adoption of the report and balance-sheet, which was duly seconded. He (the Chairman) invited discussion on the subject, to which Mr. LUCAS, of Bristol, a shareholder, and who represented several other shareholders also resident there, responded, and put a great number of questions to the Chairman from his prepared notes on all the important points connected with the quarries, and the various items in the balance-sheet, all which were satisfactorily replied to by the Chairman and the General Manager. Mr. LUCAS expressed himself perfectly satisfied on every point of his enquiry.

Mr. MORRIS, solicitor, and a shareholder, also desired information on several points, and stated that he should conclude with a motion for the appointment of a committee. The GENERAL MANAGER reminded him that unless he intended to move an amendment to the report he was not in order, but that he would have an opportunity of moving after the ordinary business was concluded, to which Mr. MORRIS assented.—The motion for the adoption of the report and balance-sheet was then put, and carried unanimously.

Mr. HELMORE proposed, and Mr. J. D. DAVIES seconded, the election of Mr. Bullock as a director, which was carried.

Mr. J. LUCAS proposed, and Mr. C. DOANE seconded, the re-election of Mr. Downes, which was also carried.

Mr. BRITAIN moved and Mr. HELMORE seconded, that the directors' remuneration for the coming year be 250l., which was carried unanimously. Mr. H. L. Morgan was unanimously re-elected the auditor of the company.

Mr. MORRIS having put a series of questions, was replied to by the Chairman and the General Manager, when he expressed himself perfectly satisfied with the election of Mr. Bullock to the direction, and the answers and explanations he had received, and he further stated that the conduct of the business of the company had been so satisfactory, and the explanations on the several matters on which he desired information had been so full and explicit, that he abandoned the idea of asking for a committee; and he assured the meeting that he

felt the greatest confidence in the management of the company, and he was glad to take that opportunity of candidly expressing his opinion.

A SHAREHOLDER having made an enquiry as to the Articles of Association, the GENERAL MANAGER explained that there were no registered articles, that the company had no special objects to secure or conditions to impose, and that Table A, of the Act of 1862, contained the regulations under which the company was constituted. He reminded the shareholders that a company so formed afforded the surest guarantee for the bona fides of all its proceedings.

Mr. SLEE (of the firm of Messrs. Hutton and Co., of Newgate street), in a business-like speech, reviewed the report and balance-sheet, and stated his firm belief that the business of the company in every department was conducted honestly and bona fide, and he was fully assured, from his knowledge of the auditor for many years, that every figure sanctioned by him might be thoroughly depended upon. He explained that he had been given had been so satisfactory that he could not help feeling the greatest confidence in the permanent success of the company. He (Mr. SLEE) also remarked that the profit already divided by this company—95 per cent. for the first year, was, in reality, a large dividend for many years.

Mr. Silver, Mr. C. Doane, and other shareholders also addressed the meeting. A vote of thanks to the Chairman was proposed and carried unanimously, as was also a similar vote to the officers of the company.

The meeting then separated.

WHEEL GRILLS MINING COMPANY.

The adjourned general meeting of shareholders was held at the offices, Austinfrans, on Wednesday, Mr. Ross in the chair.

The report of the agent and statement of accounts appeared, with the details of the meeting, in last week's Journal.

The Chairman explained that at the meeting, of which the present was an adjournment, the unanimous feeling of the meeting was that, owing to the existing great depression in the price of tin, the operations at the mine should be suspended; but in order to be perfectly legal it was deemed desirable to adjourn to the present day, so as to enable the majority of the shareholders to record their votes. Upon this occasion there were represented, by person and proxy, more than the majority, and therefore the meeting was legally qualified to pass the resolution, of which due notice had been given.

Mr. WATSON said that some misconception might arise from what he was reported (in the Journal of last week) to have said with regard to the value of the tin, and the results realised since Wheel Grills was worked by the present company. What he wished to convey to his fellow-shareholders was the fact that while calls had been made to the extent of 9l. per share, dividends had been paid to the amount of 7l. per share, in the aggregate about 7000l. In addition to this, between 5000l. and 6000l. had been expended (mostly out of profits) in the erection of extensive machinery and general plant, including dressing floors, &c. So that, if the amount had been capitalised, there would have been, notwithstanding the great reduction in the price of tin, some 2000l. to 3000l. balance in favour of the mine. Had the price of tin been maintained, the company would have continued in a prosperous position, the shareholders in receipt of regular quarterly dividends, and the property in course of vigorous development. In consequence of the stoppage of the Grills Mines, some 400 or 500 persons would be thrown out of employment, which was, of course, much to be deplored.—Mr. EDWARD COOKE said that under the circumstances they could, as prudent men, not come to any conclusion other than decided upon, for however desirous they might be to see the mining population of Cornwall employed, prudence must be exercised during such a depressed condition of the metal market. It was not because the mine was poor, or the mineral limited in extent, that the suspension of operations was about to be decided upon, but for the sole reason that the material their property produced realised so low a price in the market; but no doubt the time would arrive when a great and permanent advance would take place in that commodity, when two or more of those valuable mines could be most advantageously consolidated, and worked as one enterprise. There was before them the fact that an immense quantity of mineral of excellent quality had been returned at a comparatively shallow depth, and that the prospect of a continuing and encouraging character; therefore, as he had already stated, the mine was not about to be stopped on account of its poverty, which was a circumstance which should be recorded for the benefit of those, whoever they might be, by whom the property might be worked at some future period. The depreciation in the value of the current returns, as compared with that of some two or three years since, was in amount sufficient to make the difference between the mine being dividend-paying and call making. He reiterated his opinion, that the only prudent course to adopt under the present circumstances was to stop operations.

Mr. RICE said he had been connected with the property, as a shareholder, for something like 20 or 25 years, having been interested in it when it was known as Wheel Wellington. Although he saw no course open to them now but to adopt that shadowed forth by the Chairman, yet he had not the slightest doubt that at no very distant date Wheel Grills would again when tin improved be in a condition as prosperous as ever it had been, and he only hoped that he should be again interested in it. Resolutions were passed that the accounts produced at the present meeting be passed and allowed; that a call of 1l. per share be made, and that the account passed, and all calls made thereat, be confirmed.

It was further resolved that, in consequence of the present depressed state of Cornish mining, arising from the exceedingly low price of metals, and the state of the money market, and it appearing that with the present price of tin the mine cannot be worked other than at a loss, the materials be offered to the lessors in the usual way; and in the event of their non-acceptance of such offer, that the same be sold by private contract, or public auction. Votes were then given to the Chairman, committee, secretary, and agent were passed, which concluded the proceedings.

THE AUSTRALIAN MINING COMPANY.

The annual general meeting of shareholders was held at the London Tavern, on Monday, Col. G. PALMER in the chair.

Mr. U. P. HARRIS (the secretary) having read the notice convening the meeting, the minutes of the last were confirmed.

The directors reported that the recent discoveries of gold-bearing quartz in the neighbourhood of Tungkillio had induced the directors to send out instructions to Mr. Davenport, the company's agent in the colony, to cause further search to be made, with the view of ascertaining whether gold may not be found in sufficient quantities to pay for working on a large scale. The shareholders will remember that in the year 1864 gold was proved by assay to exist in various parts of the company's property, and should the present discoveries in the colony lead miners to apply to work for gold on the land belonging to the company, Mr. Davenport is prepared to grant licences on liberal terms. Recent advices report less activity in prospecting the search for gold, in consequence of the want of quartz-crushing machinery on a large scale to test the value of the quartz reefs which have been discovered. The directors anxiously look for the results of the operations of a colonial quartz-crushing company, who propose to erect suitable machinery in the locality. Mr. Baker continues to rent the surface-land, at 1350l. per annum, until Dec. 31, 1867. Charlton estate is let to Messrs. Tinline and Fisher till Dec. 1, 1867, at 2250l. per annum. Port Augusta still remains quiet. The directors were disappointed in not being able to obtain the permission of mining for gold on the land of the company's land. Applications have been made in the colony for mineral licences and leases, and the terms arranged between the miners and Mr. Davenport, but owing to the late exciting discoveries of gold and other causes no work has been done. The directors hope the shareholders will approve and confirm the resolution for payment of a dividend of 1s. per share on June 1 last, although it involved the anticipation of the company's rents, which only became due on that day in the colony, and, therefore, are not yet in course to be received in England. The high value of money in the colony, and the fact that the directors are anxious to see the gold for the purpose, led the directors to conclude that the resolution would meet the approval of the shareholders.

A SHAREHOLDER enquired whether there had been any fresh discovery of gold on the company's property. The CHAIRMAN said that it would be remembered that in 1864 gold was discovered, and samples sent home, which were assayed, the result certainly not being poor, but the machinery then known would not have enabled them to work at a profit; also there were no roads through the property; but now he (the Chairman) thought, with the facility of the Government road, the navigation of the River Murray, and the vast improvement in quartz-crushing machinery, the gold quartz on the property might pay. A letter had been recently received from Mr. Davenport (Adelaide, May 29), wherein he should have much pleasure in reading, and he had to thank you for your favour of March 26, enclosing plan of Tungkillio special survey and the letters of Mr. Foster and the assayers bearing on gold there. You speak of the satisfaction the directors feel at the steady advancement of the main road from Adelaide to Mannum. But this is a progressive community, and certainly its spirit in improving the means of internal traffic is not of the dullest. Indeed, South Australia is pre-eminently a good road-making colony. As regards Tungkillio districts, other road-work now looms in the future. Last session a Bill was passed for the construction of an iron tramway from Strathballyn to Victor Harbor. This was but giving existence to a thing which has claimed life for many years. The Bill is now before the House, and it is natural whenever a port was ready at one end and a productive settlement at the other. Well, the Bill was popular, and passed, and the work is commencing. But those who know the country know also that the same favouring conditions which lead to its adoption must, soon too, lead to its extension. It is not tenable to suppose the up terminus is going to be at Strathballyn long, for Strathballyn is, after all, but part way on that natural lay of occupied country, whose occupation calls for increased facilities of traffic. North of Strathballyn, up the Bremer, and in the north-eastern range, common to Tungkillio, there yet hided a productive district, year by year developing its resources in grains and minerals, and roads they must have—so that you need not be surprised to hear that instructions to make a trial survey for such extension have already been given to the railway engineer. The very fine rain now taking place will be most acceptable to the company's grass tenants both at Charlton and Tungkillio, for long severe drought was beginning to raise in their minds doubts as to how far payment should be asked and given for a material not received; indeed, the drought here has been very severe and unprecedented.—GOLD: In thanking you for the plan sent, I may state that I shall be prepared to use it to advantage, and to incur such outlay as the directors would trust with me so soon as the time of action comes. At present, I may say, nobody does anything—by which I mean all wait till there is present from some party that capable machinery which can test quartz by the ton, to show how gold holds in quantity. They all wait for this event, and I think with reason, for no small tests go for anything. We know there is gold in many places; indeed, it is no novelty. The grand question is, will it bear working on the large scale? Then you ask what is doing to forward that for which people wait? I reply that two parties are procuring such machinery, though I fear not on that scale it is desirable to have it; but another and more promising is the Exchange Quartz Company, who have just determined to spend 12000l., in addition to their present machinery, to work sets of stamps, and of them I have more hope. They will work at Echunga, but will, as convenient, crush for other parties. Then I think will be my time, if I am to act at all, to try something, by delivering of a sufficient quantity to a due test from the localities which we know have yielded. Meantime, the license already granted may do something, though the holders are inactive from the same cause. Since the mail a new gold discovery has been made of nuggety gold in quartz in Lyndoch Valley, and some expectations are raised as to it. Of the proposed Kapunda

Company, to work the Allen's Creek mineral lodes, I have nothing fresh to note by this mail.—SAMUEL DAVENPORT.

A SHAREHOLDER referred to the Tungkillio portion of their property, and thought it would be better, instead of as now letting the whole 20,000 acres to one party, to try and divide it into smaller lots, and let it to several holders. By so doing, he thought that a much larger revenue would ensue to the company.—The CHAIRMAN said that Mr. Davenport had only let it to Mr. Baker until Dec. 1, 1867, and, therefore, could as opportunity offered let at an increased rental as the development of the property by roads, &c., warranted. The directors were sure they could not do better than follow Mr. Davenport's advice.

Mr. C. WHEATHAM said that, from his intimate knowledge of the country, he should not advise the sub-division of the property. So far as its being a large holding, he knew several parties who rented tracts of land hundreds of thousands of acres in extent.—A SHAREHOLDER asked whether Mr. Davenport had made any arrangements to test the mineral value of the property by letting at a royalty?—Mr. COLLIER said that no work had been done, and great drought had been experienced throughout the colony. By the last advice, however, it appeared that the colony generally was now in a state of prosperity, and he had no doubt but that Mr. Davenport would avail himself of every opportunity to test their mineral value. With regard to sub-dividing the Tungkillio property, he (Mr. COLLIER) thought no extra profit would be made by that step at present, as only the valuable plots would be taken; if, however, they could sell or let any large portions for a handsome sum he should not object. It must be remembered that the Government, by making roads, were very materially developing the value of the property.

A SHAREHOLDER asked whether they might not let it in plots of 4000 or 5000 acres?—Mr. COLLIER said that plots of that size were not large enough for grazing purposes, and he thought that it would be a very serious mistake to cut up the property at present.

The directors' report and accounts were then received and adopted, and Messrs. J. Anderson and H. R. Wotton re-elected directors; Messrs. J. Grove, J. A. Franklin, and C. Ehrenberger were re-elected auditors, the sum of 30 guineas being voted for their services during the past year.

The CHAIRMAN, in moving that a vote of thanks be presented to Mr. Davenport by the shareholders, said that they were much indebted to Mr. Davenport for the untiring zeal and energy with which he conducted the whole of their affairs in the colony. This was unanimously agreed to, and a vote of thanks to the Chairman and directors terminated the proceedings.

ENGLISH AND AUSTRALIAN COPPER COMPANY.

An extraordinary general meeting of shareholders was held at the London Tavern, Bishopsgate-street, on Thursday, Mr. ROUTH in the chair.

The CHAIRMAN, in moving the reception and adoption of the report, observed that the statement which he had now to place before them was for the half-year only, and extended to Dec. 31. During that period they received from the Barra Barra Company 3600 tons of ore, whilst the ore and regulus from other mines amounted to about 100 tons. The quantity of ore smelted at the Barra smelting-works was 1863½ tons, and the quantity of regulus and ore smelted at the Port Adelaide works was 2613½ tons. The quantity of rough copper made at the Barra smelting-works was 492 tons; and the quantity of copper made at the Adelaide smelting-works, including the rough copper sent from the Barra works to be refined, was 1001 tons. The quantity of copper shipped from Australia during the same period was 1604½ tons. In reviewing the operations of the company, they always had great difficulty in dealing with the half-yearly accounts, in consequence of those accounts, unlike those submitted at the annual meeting, being made up upon estimates only. He was happy to tell them that, notwithstanding the depressed price of copper, they had been able to pay their way, and had a balance standing at the credit of profit and loss account. The price of copper was lower than it had been during the past 16 years. He considered, and in this his co-directors agreed with him, that the present position of copper was decidedly exceptional, and that they might look forward to better times. During the past year the produce from the Barra Mine had materially fallen off, but the ore from other mines had much increased. Their principal profit was, no doubt, derived from copper smelting; but it should be recollected that they had at Adelaide wharf property of great value—property which already paid them well, and which was much improving in value. In a more favourable state of the money market this could be very satisfactorily dealt with. Had it not been for the fall in the price of copper, they would have had a good dividend to-day; but he hoped there was every prospect of a dividend at the annual meeting, even at the present price of copper. He concluded by moving the reception and adoption of the report.

Sir THOMAS TASSER enquired whether the low price of copper did not enable them to purchase their ore at a lower price?—The CHAIRMAN said that it did, but the effect of the reduction in the price of ore was not felt until some time after it took place. It was mentioned, in reply to shareholders, that Sir Charles Rich had ceased to be a director, in consequence of ill health, and that Mr. H. W. Schneider had also retired from the board. A lengthened discussion followed, in the course of which Mr. FLEWER remarked, in reply to a shareholder, that even the smelting of copper from regulus, which was the most unprofitable part of their business, had returned a profit. Mr. R. MCALLAN seconded the report, which was put to the meeting, and carried unanimously, a vote of thanks to the Chairman terminating proceedings.

PORT PHILLIP AND COLONIAL GOLD MINING COMPANY.

An extraordinary general meeting of shareholders was held at the London Tavern, on Monday, Mr. JOHN DISTON POWLES in the chair.

Mr. C. H. FIELDER (the secretary) read the notice convening the meeting. The accounts (an abstract of which has already appeared in the Journal) were taken as read.

The CHAIRMAN said that the circular which had been placed in the hands of the shareholders gave all the information the directors had to communicate with respect to the present condition of the company's affairs. As the proprietors were aware, the operations for some time past had been carried on through a low produce of ore, but the same thing had happened before—indeed, the produce had been lower. For instance, the produce during the month of June, 1866, amounted to only 5 dwts. 5 grs., but it had subsequently improved, and he (the Chairman) had no doubt it would do so again. But it could not fail to be most satisfactory that with this exceptionally low yield the result showed a very respectable profit. With ore of a yield of only 5 dwts. 18 grs., the receipts for gold for the month amounted to 7148l., exclusive of the sum which came from the Clunes Alluvial Company, but irrespective of that, and notwithstanding the exceptionally low yield, the receipts for the month amounted to 7148l., against a cost of 6129l., leaving a net profit of over 1000l. The grounds upon which were based the hopes of realising future profits (apart from an improved yield) were the enlarged scale of operations and the reduced expenditure in every department, the more especially since the amalgamation of the two companies, which had had a most beneficial effect. The most complete harmony existed in working the mine, and there was no difference of interest between one body and the other. Mr. Bland, in his last report, stated that there was nothing but agreement, harmony, and unity of action for the good of all. (Hear, hear.) He need only say further that the present was an extraordinary meeting, for the purpose of declaring a distribution on account of the profits made during the last six months, and therefore he would not detain the meeting further than to move "that a distribution of 1s. per share (free of income tax), on account of the profit made by the company during the last six months, be made."

A SHAREHOLDER enquired if the board considered that the maximum of the reduced expenditure had been attained?—The CHAIRMAN replied in the negative, stating that the cost for the last month of which advices had been received showed a reduction as compared with the preceding month. Mr. Bland expressed his confidence in still further reducing the expenditure.

Mr. FLEWER seconded the motion from the chair, in order that he might have an opportunity of asking two or three questions. He wished to know if the decreased yield of gold had arisen from the working up the ore previously brought to grass, but left on account of its inferior quality; or whether it was the result of ore raised from the mine, and crushed in the usual way? He also wished to know if the extreme saving that it was possible to arrive at had been reached in the loss of gold, and whether the recent invention of sodium amalgam had come under the notice of the directors, an invention which he had understood had been most successfully used in Wales? It was being tried at St. John del Rey. He likewise would ask what would be the probable outlay on account of plant during the next half-year, the amount during the past six months being 45000l.?

The CHAIRMAN, replying to the last question first, stated that the item referred to was not on account of plant, but for materials on hand, which was really as good as so much cash. There were certain periods in Australia during which stocks of stores, and especially firewood, could be advantageously purchased. As regards Crookes' amalgam, full information had been sent out to Mr. Bland; and as to the limit of the economic treatment of ore, he very much questioned whether for years to come the maximum would be reached. Mr. Frewer had alluded to St. John del Rey; he (the Chairman) had been Chairman of that company from the beginning, and he could recollect when the loss of gold was 50 per cent., but it had gradually been reduced until the loss was not more than 7 per cent., a result that had been brought about by a continuous improvement in the manipulation, so that it was impossible to say when the maximum would be reached.—Mr. FLEWER said it appeared to him that their present loss was 30 per cent.—The CHAIRMAN said the present loss was 2 dwts. 6 grs. per ton. An accurate judgment could not be formed as to the loss, except by taking it at per ton, and not the percentage, because the loss per ton would be the same whether the produce 10 or 5 dwts. As to the low quality of the ore, Mr. Bland states that "the diminished quantity of work done, and a diminution in the yield of 12 grs. per ton, accounted for from the general run of the quartz being poor, and the large quantity of known poor mineral from the quartz being poor. Next month I shaft, 1518 tons of which had been crushed during the month. Next month I think we may look for an improvement in the yield. Some stopes on Robinson's vein south, expected to yield well, will then be in work. Steps are being taken to raise a quantity of quartz from the upper part of the Welcome vein, said by the miners to have been left in the workings some years since. An old shaft is now being cleared out and repaired, to enable us to get at it. The further sampling of the mine will be continued, to enable us as far as possible to reject the poorest mineral. The yield per ton of the above parcel of pyrites was less by 9 dwts. than the last, and was less by 9s. 6d. per ton, and is 8d. per oz. of the gold extracted. The loss of quicksilver was also less. The amount of gold obtained was 86.60 per cent. of the assay contents. The furnace is now in use, roasting a further parcel of this material; the grinding of it has also been commenced, and I expect the greater part of the produce to come into this month's return." He believed every detail was closely looked after, and that they had an able head at each department.

Mr. FLEWER said that, irrespective of their duty, the directors held too large an interest in the company to lose sight of the necessity of the greatest economy. With respect to the question of the productiveness of the mineral in depth, he might mention that there were two mines, north and south of Clunes, where the explorations had been extended 100 ft. deeper, at which depth better

BRITISH MINES.

SOUTH WHEAL TOLGUS.—Youren's Lode: In the 150, west of Michell's engine-shaft, the lode is 1 foot wide, composed of soft spar, mundle, and stones of iron ore, and has a very kindly appearance. In the 110 west the lode is about 8 in. wide, producing $\frac{1}{2}$ ton of ore per fm., worth 6l. per ton; price for driving 2l. 5s. per fm. The lode in the stope over the back of the 110 west is producing $\frac{1}{2}$ ton of ore per fm., worth 6l. per ton; price for stoping 2l. 5s. per fm.—South

WHEAT, NORRIS.—J. Andrews, July 28: The ground in Carter's shaft is a little stiffer, consequently the progress in sinking is not quite so good. There is no change in the 70 east since last reported. In the rise in back of this level fair progress is being made. Yesterday we cut into the lode, which is 18 in. wide.

the lode, 20 ft. under LA Esperanza level, is a small, but easily accessible one. A new lode was discovered in the ravine about 150 yards north from the mouth of LA Esperanza level, and from its congenial appearance the superintendent hopes that it may prove a valuable discovery; it is about 2 feet wide, running about east and west, and underlying south, composed of white flocon, soft porphyry, feldspar, and quartz, containing spots of soft brown blende, rich in silver; the back of the lode being covered with loose heavy de-

brils, and troublesome to work by open trenching, a short cross-cut is being put in to intersect it in deeper and firmer ground. At the time of the mail leaving its intersection was immediately expected. In Atutilla Mine some very fine stones of galena and gossan ore from the shallow adit on Slide lode have been broken, assays of which have given 52, 53, and 45 ozs. respectively. The men sinking Ortiz's winze to foul air. The raisings from the various mines in May were as follows:—

	T. c. q.	Ley.	Ozs. of Silver.
San Pantaleon	15 0 0	at 44-5	= 667-5
San Carlos	31 12 0	at 70-5	= 2227-8
Atutilla	0 15 0	at 45-5	= 34-0
Total	47 7 0	tons.	2929-3 ozs.

The 31st remittance of silver, consisting of nine bars, worth about \$7300, was forwarded to Guatemala on May 11, and a letter from Mr. Trencor, who accompanied it, has been received from that city, advising its safe arrival.

REVIEW OF THE IRON TRADE.

The enquiries for rails continue on a fair scale; about 15,000 tons have been placed in Wales, on Russian and American account, and it is thought there may be some further autumn demand for iron. Unhappily, however, they are rarely in a position to make the reimbursement entirely in cash; consequently, business is limited to some extent; but hereafter, as the country gets daily more and more into heart, some credit may, perhaps, be safely extended to those lines, in which case a demand for British rails would undoubtedly spring up during the prevalence of the present low prices on this side of the Atlantic, and of an unaltered tariff yonder. The North of England ironmasters, still hampered with too highly paid labour and strikes, are (with the exception of the Stockton Works) excluded from whatever orders may come upon the market for malleable iron at present, and all contracts must go either to the Principality or Staffordshire.

The invitations issued by the Northern of France Railway Company for tenders for 1000 tons of rails were responded to by some London firms, but all the offers, English, French, and Belgian, were above the minimum fixed by the directors (190 frs.). The contract, therefore, was not let last week, although, doubtless, it will be ultimately taken by French or Belgian ironmasters. A protective duty of 60 frs. per ton is still payable in France on imported rails, although we have what is facetiously called a "free-trade" treaty with the country; but, under these circumstances, it is clearly shown that "no Englishman need apply" for any French contract for iron rails. As regards the Great Northern (of England) Railway Company's contract for rails with a leading Welsh house, mentioned in our last, it has since been stated that the sale is accompanied by no guarantee of duration whatever, as, indeed, the prices of 6l. 17s. 6d. at Doncaster, and 6l. 15s. in London, at which it was made, would suggest. In all other departments of the iron market business remains absolutely paralysed, and there are no signs whatever of immediate relief in any direction; on the contrary, fresh suspensions in Glasgow and Middlesbrough have taken place, and distress and suffering pervade the producing districts of Cleveland, both for masters and men, while the latter continue stubbornly to resist the proposed reduction of wages at all the mills and furnaces, save those of two or three proprietors.

The specifications for the Indian rails are not yet in the hands of the trade; they will, most likely, constitute a requisition for close upon 18,000 tons of iron, a quantity which is, of course, a mere flea-bite in relation to the enormous productive powers of our rolling-mills now. Some of the home lines of railway are also represented as starving for want of iron, but as they are equally suffering from some financial embarrassment, orders cannot be given until while the money market maintains its present state of tension, which means nothing less than the direct ruin and destruction to the mining and manufacturing interests of the United Kingdom, let our doctrinaires say what they may. It is impossible that the industry and capital employed in iron-making, loaded, as of late, with a discount rate of (practically) 12 per cent., and having still to encounter highly hostile foreign tariffs, can successfully contend with the cheaper money and cheaper labour of the continent of Europe, so that unless some important change takes place in these respects the English export trade in iron may soon decline to a point that will, at all events, exonerate us from the recent singular reproach of Mr. Stanley Jevons—that of "committing national suicide." In every foreign shipment we make of the products of our iron fields, because of the absorption of coal therein involved. In the meantime, what is to become of the classes subsisting by manual labour in smelting and rolling iron in Northumberland and Durham baffles all conception.

The Welsh Steam Coal Trade is reported as enjoying the sunshine of high material prosperity, at a time when the cold shadow of unprofitableness rests upon iron; this state of affairs alone prevented that fall in wages from taking place which the position of the latter article required, as evinced by the notices given at the various works, but since rescinded. It has been argued—given, therefore, the maintenance of the present scale of wages to rollers and forgers in South Wales, from the peculiar position of the coal trade—given also the continued silence of death in the lately busy ironworks all along the Stockton and Darlington Railway, whereby a production of finished iron, roughly estimated at 7000 tons per week, is extinguished *pro tem*, and probably 10,000 to 12,000 stout fellows placed in voluntary, or rather Union-enforced, idleness—that there were now to arise anything like an average and normal demand for rails, merchant bars, plates or angles, the Welsh ironmaster must largely benefit by the strike in the North, as the value of Welsh iron would immediately improve in the market. Many persons are sanguine enough to think that, in prospect of peace and a good harvest, this result will even now certainly happen, and but for the panic-stricken condition of commerce, and the chronic state of distrust which subsists, no doubt, the worst of this *annus mirabilis* ought to have been past and done with, so far as the iron trade is concerned. As yet, however, the most that can be said is that the week closes with less despondency and gloominess of feeling than lately prevailed, without any desire whatever to make purchases of any kind of iron for forward delivery, or more than is wanted for immediate use. Welsh manufactures are, at the same time, firmer, and, in the event of a protracted struggle between the ironworkers and the ironmasters of the East Coast districts, prices might soon return in Wales to, at all events, the non-losing point of 6l. 10s. per ton, f.o.b., for bars and rails, below which they have recently been selling.

G. B. TOMES AND CO.

The ROYAL CORNWALL POLYTECHNIC SOCIETY'S thirty-fourth Annual Exhibition will commence on September 14, and be continued for six days thereafter. As will be seen from the advertisement in another column, silver and other medals and money prizes are awarded to the more deserving exhibitors, whilst no charge for space is made to those competing. Apart from the honour attaching to the possession of the honours awarded by the society to the successful exhibitors, the annual exhibition affords an opportunity, not elsewhere to be found, for manufacturers and others to bring their productions prominently before those likely to take an interest in them; for inasmuch as the visitors invariably include not only the chief of the gentry and the ladies of the western counties, to whom the fine arts portion may be considered more especially attractive, but also the principal mine managers and agents, by whom the merits and shortcomings of almost every machine or contrivance intended for their advantage are carefully examined and freely discussed, so that the inventors are enabled to remedy defects which may exist, and thus perfect their inventions, and facilitate their general introduction for the purposes intended.

CHONTALES.—The directors have just issued a circular, in which they desire "to check the unfounded fears that may have arisen in consequence of rumours circulated since the arrival of the last mail." They state that "a considerable portion of the machinery has already reached the mines, and a large amount of work has been done in improving the road from Libertad, in clearing the ground, and in opening out the different mines. It is hoped that two water-wheels may soon be in full working order. Though, from the delay in getting up the machinery, some further time may elapse before the works at the mines are in full operation, the directors continue to receive from competent judges, who have seen the company's property since their last advice, an unvarying report of its being of great value and importance." These remarks confirm the statements repeatedly made in the articles which lately appeared in these columns. We also stated that remittances of gold were likely to begin to be received in September or October, and we have now reason to be still more confident that this will be the case. The dry season commences in October, and we believe that no doubt exists but that the heavy machinery will then be transported to the mines, it being already, we understand, within a comparatively short distance. We fully expect to see this undertaking one of the most profitable and successful of the present day.

MINERAL RIGHTS ASSOCIATION.—Several properties, presenting features of great value and importance, are before the directors. The board has a considerable amount of capital in hand, and with care and judgment may now lay the foundation of large profits for the shareholders. Full information will, no doubt, be given when the business in hand is matured.

OTEA COPPER COMPANY.—Mr. Philip Wright, one of the directors, who has lately returned from visiting this company's property, has issued a letter to the shareholders, in which he assures them of the great value of the property, and that large returns may be confidently looked for. According to the prospects when he left New Zealand, in March, the machinery would be at work by the end of June, so that by this time, no doubt, they are vigorously at work returning the copper ore. The first shipment of upwards of 100 tons is expected to be made this month (August), the quality of which is estimated at 15 to 20 per cent.

LONDON GENERAL OMNIBUS COMPANY.—The traffic receipts for the week ending July 29 was 13,167l. 6s. 2d.

The Mining Market; Prices of Metals, Ores, &c.

METAL MARKET—LONDON, AUG. 3, 1866.

COPPER.				IRON.				Per ton.	
Best selected . . . p. ton	£	s. d.	£ s. d.	Bars Welsh, in London	7	0	0-7 5 0		
Tough cake & tile . .	81	0	0	Ditto, to arrive	7	0	0-7 5 0		
Burra Burra	85	0	0	Nail rods	8	0	0-9 5 0		
Copper wire . . . p. lb.	0	11½	0	Staffs. in London	8	10	0-8 17 6		
Do. tubes	0	12	0	Bars ditto	8	10	0-10 0 0		
Sheath. & bolts p. ton	86	0	0	Hoops ditto	9	10	0-10 10 0		
Bottoms	91	0	0	Sheets, single	10	0	0-11 0 0		
Old (Exchange) . . .	72	0	0	Pig No. 1, in Wales . . .	4	5	0-4 10 0		
BRASS.				Refined metal, ditto.		4	0	0-5 0 0	
Per lb.				Bars, common ditto.		6	5	0-6 10 0	
Sheets per lb.	9d.	—	—	Do. mch. Tyneor Tees	7	10	0	—	
Wire	83½ d.	—	—	Do. railway, in Wales	6	0	0-6 5 0		
Tubes	94½ d.	—	—	Do. Swed. in London	11	0	0-12 0 0		
Yellow Metal Sheathing . . p. lb.	8½ d.	—	—	To arrive	11	10	0	—	
Sheets	8½ d.	—	—	Pig No. 1, in Clyde . . .	2	12	3-17 3		
SPELTER.				Do. f.o.b. Tyneor Tees <td>2</td> <td>9</td> <td>6</td> <td>—</td>		2	9	6	—
Per ton.				Do. Nos. 3, 4, f.o.b. do. <td>2</td> <td>6</td> <td>6-2 7 0</td> <td></td>		2	6	6-2 7 0	
Foreign	19	10	0	Railway chairs	5	10	0-5 15 0		
To arrive	19	10	0	" spikes	11	0	0-12 0 0		
ZINC.				Indian Charcoal Pigs,		7	0	0-7 10 0	
Per ton.				In London p. ton.		7	0	0-7 10 0	
In sheets	30	0	0	STEEL.		Per ton.			
TIN.				Swed., in kegs (rolled) .	13	0	0-14 0 6		
Per ton.				Do. (hammered)	15	0	0-16 0 0		
English blocks	85	0	0	Ditto, in fagots	16	0	0-16 10 0		
Do., bars (in barrels)	80	0	0	English, spring	19	0	0-23 0 0		
Do., refined	88	0	0	QUICKSILVER (p. bottle)	7	0	0	—	
Banca	80	0	0	LEAD.					
Straits	76	0	0	English Pig, com.		19	10	0	—
TIN-PLATES.*				Per box.		Per ton.			
IC Charcoal, 1st qua.	1	10	0	Ditto, ordinary soft . .	20	0	0	—	
IX Ditto, 1st quality	1	16	0	Ditto (WB)	22	10	0	—	
IX Ditto, 2d quality	1	8	0	Ditto, sheet	21	10	0-21 15 0		
IX Ditto, 2d quality	1	14	0	Ditto, red lead	23	10	0-24 0 0		
IX Coke	1	4	0	Ditto, white	27	0	0-30 0 0		
IX Ditto	1	10	0	Ditto, patent shot . . .	23	15	0-24 0 0		
Canada plates, p. ton	13	10	0	Spanish	19	5	0	—	
Ditto, at works . . .	12	10	0						

* At the works, ls. to ls. 6d. per box less.

* At the works, 1s. to 1s. 6d. per box less.

REMARKS.—We look forward with great satisfaction to the beneficial results likely to follow from the completion of the Atlantic Telegraph, which now connects London with America, as we have no doubt that this great work will prove of incalculable advantage in commercial affairs, and will be the means of adding greatly to the amount of business with the United States; and although it will prove detrimental to speculative operations, yet it will be of immense advantage in all legitimate transactions. We trust, also, that it may result in cementing the amicable relations of the two countries, and that it may cause a greater amount of good feeling to prevail than has hitherto done, by bringing us much nearer to each other, and affording quicker information as to the various movements in each country. We feel assured that the metal trade will greatly participate in the advantages resulting from this noble undertaking. The continuance of the Bank rate at 10 per cent. is becoming really serious, and the determination of the directors of the Bank of England to continue this high rate, in spite of lower rates being accepted in the open market, is being much called in question—much disappointment was felt that no alteration was announced at the meeting on Thursday. We trust, however, that a reduction will be made ere long, as it interferes very seriously with business operations. We fully anticipate that should peace be finally declared in Germany, and the money market become easier, we should see a much better state of things arising in the metal market, as there are already indications of coming improvement.

COPPER.—The market for this metal is certainly in an improving condition, and prices are much firmer; it is now exceedingly difficult to buy under smelters' prices. Foreign, also, is in much greater request, and both Burra and Wallaroo have been sold at 85l. cash.

IRON.—In Staffordshire no improvement can be reported in the demand for manufactured iron. At hardly any of the works is anything like the average make being produced, and the trade is as much depressed as it has been for some years past. There are hopes that the conclusion of peace may lead to a resumption of orders for the Continent, and that the delay in the passing of the United States Tariff Bill may cause more orders to come from that quarter. Four failures have occurred in the iron trade, which had previously been anticipated, the principal being in connection with previous embarrassments. In Welsh, in anticipation of a permanent peace in Germany, and the hope of a reduction of the rate of discount, the ironmasters have held a meeting to reconsider the notice that had been given to the men of a reduction in wages; and, after careful consideration, it has been agreed that the wages of all the men employed at the works should continue to stand as heretofore. The proposed reduction would have affected the men at least 10 per cent. The result has given the greatest satisfaction among the workmen, and it has been the means of keeping at home a large number of the most skilled workmen, who, in anticipation of the reduction being carried out, were making preparations for emigrating to the United States. In Swedish iron the demand is not so active, but holders are indisposed to give way in prices. In Scotch pig-iron the market has been rather quiet during the week, and the fluctuations have not been considerable; upon the whole, however, prices have rather improved, the last advice from Glasgow stating the price to be 52s. 3d. cash.

LEAD.—The demand is by no means active, although a slight improvement may have occurred. The present quotations are—common English pig, 19l. 10s.; L.B. 20l.; and W.B. 22l. 10s.

TIN.—The market for Straits has become rather firmer, and transactions have occurred at 76l. cash and 76l. 10s. prompt three months. In Holland the stock of Banca on warrants on July 31 was 109,375 slabs against 30,700 slabs same time last year, and the arrivals towards next sale were 118,159 slabs, against 26,460 slabs same time last year.

SPELTER.—The prospect of peace on the Continent has caused this metal to drop in price, and transactions occurred at the commencement of the week at 20l. 5s. on the spot, and then at 20l. More recently a further decline has occurred to 19l. 15s., and business has now been done at 19l. 10s. on the spot. The stock in London on July 31 was 6908 tons, being an increase of 1034 tons in the month.

TIN-PLATES meet with a better sale, and, as a rule, quotations are pretty well maintained.

STEEL and QUICKSILVER without alteration.

BIRMINGHAM, AUG. 3.—Rylands' "Iron Trade Circular" says:—Trade continues depressed, only business in marked brands for standard consumption. Wire-roads and nail-roads slightly in request.

The, as many people think, unnecessary continuance of the Bank rate at 10 per cent. not only causes much disappointment in monetary circles, and positive injury to commerce, particularly in metals, but puts a stop to all speculative business. In the MINING SHARE MARKET there is an entire absence of general business transactions, and still greater depression in prices. The copper market is rather better at Swansea, and immediately after the last Ticketing there a large quantity of foreign ores were sold by private contract, at 13s. 4 1/2d. per unit. Since then Chili carbonates have been sold at 13s. 6d.; and on Saturday last about 3000 tons of Chili regulus and ores were sold, at 14s. per unit.

In shares, the chief business has been in Prince of Wales, which advanced to 40s., and leave off 24s. to 26s.; the water was pumped out of the mine last week in little more than 24 hours, when it was inspected by several agents, whose favourable reports more than confirm all that has been said of the value of the lode, and of the general prospects of the undertaking. Great fluctuations will naturally take place in shares in a dull and depressed market, where scarcely any shares are saleable, for when there are no orders to buy, the price is put down, and when orders appear, shares are difficult to get at quotations. During the whole week these shares have been almost the only ore dealt in. East Caradon shares are not so firm, at 6 1/2 to 6 3/4; the caunter lode in the 100 is producing stones of ore, and the other ends in the mine, in the aggregate, are worth 77l. per fathom.

Mineral annual accounts, made up to the end of June, show sales of lead ore, 68,363l. 14s. 6d.; blende, 14,349l. 12s.; and blende in

hand, 5779l. 18s. 1d. The costs were 37,813l. 12s. 9d.; royalties paid, 7119l. 10s. 3d.; profit, 37,241l. 7s. 9d. Great Retallack shares have been in demand, and leave off 10s. to 15s.; the mine has fine prospects for lead, and is nearly paying for blende. Bedford United, 12s. 6d. to 17s. 6d.; Camborne Veau, 1 to 1 1/2; Chiverton Moor, 4 1/2 to 4 1/2; Chontales (gold), 2 1/2 to 2 3/4; Clifford Amalgated, 5 to 5 1/2; Carn Camborne, 10s. to 15s. East Basset, 13 to 15; at the meeting the accounts showed a loss of 142l. 9s. 5d. on the two months' working, and a balance in favour of the adventurers of 390l. 16s. 10d. In the 100 cross-cut, east of new shaft, the agents expect to cut the north part of the lode in about 6 ft. driving. Cook's Kitchen, 2 1/2 to 2 3/4; Devon Great Consols, 420 to 440; East Carn Bren, 17s. 6d. to 20s.; East Lovell, 5 to 5 1/2; East Rosewarne, 5s. to 10s.; East Russell, 2 1/2 to 2 3/4; East Wheal Grenville, 2 to 2 1/2; Frontino and Bolivia, 9s. to 11s.; Great Laxey, 19 1/2 to 20; Great North Laxey, 32s. 6d. to 37s. 6d.; Great Wheal Vor, 18 to 19; Great Wheal Fortune, 1 1/2 to 2 1/2; Herodfoot, 30 to 32; Hingston Down, 3 to 3 1/2; Marke Valley, 3 1/2 to 3 3/4; Mineral Rights, 1 to 1; North Roskear, 1 to 2; North Treskerly, 2 to 2 1/2; Rosewarne United, 5s. to 10s.; South Condurvor, 9s. to 11s.; South Crofty, 9s. to 11s.; South Frances, 12 1/2 to 15; Tincroft, 8 1/2 to 9 1/2; West Caradon, 4 1/2 to 5 1/2; West Chiverton, 6 1/2 to 6 3/4; West Seton, 100 to 110; Wheal Chiverton, 5 1/2 to 6; Wheal Seton, 140 to 150; Wheal Trelawny, 8 to 10; Wheal Uny, 5s. to 10s.

The market for mines on the Stock Exchange is steady, with little variation from last week's quotations. St. John del Rey, 47 to 49, Cobres have been dealt in as low as 1l. per share, but close 2 to 4; the shares in this company which are now scrip, with 40l. paid, and consequently unlimited, are about to be registered under the Limited Liability Act, with 50l. shares, thereby reducing the liability to 10l. per share the low price of copper and an accident to the machinery are said to be the cause of the loss the company has made. Don Pedro, 1-16th to 3-16ths prem. Anglo-Brazilian, 1/2 dis. to par. Scottish Australian Mines, 11-16ths to 13-16ths. Port Phillip, 1/2 to 1 1/2 ex div. English and Australian Copper, 1/2 to 1. Cape Copper, 1 1/2 to 2 prem. Frontino and Bolivia, 1/2 to 1. Chontales rather firmer, at 1/2 to 1 1/2 dis.; the private advices from the Chontales district are of a favourable character. In British mines Great Laxey has been in demand at 19 1/2 to 20; Great Wheal Vor, 18 1/2 to 19; West Chiverton, 65 to 67 1/2; the mine is reported as being richer than at any former period, Chiverton, 5 1/2 to 6; Chiverton Moor, 4 1/2 to 4 3/4; Prince of Wales, 25s. to 27s.; Clifford, 5 to 5 1/2. The changes in prices otherwise are unimportant.

IRISH MINE SHARE MARKET.—Taking into consideration the long continuance of the extraordinarily high rate of the official minimum of interest, and the consequent difficulty of obtaining financial accommodation at almost any price, or for any securities, it is not surprising that our stock and share market has for the last few weeks exhibited an unparalleled languor, with occasionally an entire absence of transactions. But it speaks volumes in favour of investments in our well-conducted and promising mines that, in the face of the many and serious difficulties, mining shares have never been completely neglected, and that their market value has been affected only negatively by a check to a probable very strong advance of the already high premiums on the leading mines. In the shares of the more speculative—because not yet sufficiently developed—mines there also is no particular fall to record, the only effect upon them by the present "bad times" in the financial world being—not to lessen the desire to invest in them, but simply to create a wide difference of price between holders and bidders for purchases, which has hitherto resulted in disappointment to the latter in not finding parties willing to sell at prices which monied men were self-sufficiently pleased to call "good terms under all circumstances!" The result has been "no business" on several days within the last two or three weeks. But a slight turn for the better in the money market will immediately be attended by a great increase in transactions in all our mining shares. Recently the margin between buyers and sellers of Wicklow Copper shares has been scarcely 1 per cent. on the average market value, or about 5s. per share, and, therefore, a good deal of business has been done in them. They have been down to 22l. (2l. 10s. paid), but are again in request at 22l. 12s. 6d. to 22l. 15s. On some of our most depressed days Mining Company of Ireland shares (7l. paid) would have been sold at 16l. 15s., and bought at 16l. 10s., but these also are better, and have been negotiated at 17l. 2s. 6d. to 17l. 5s. Attempts were made to secure some for January account at 20l. per share, but without success. Connors have been drooping, and are now on sale at 15s. Carysfort (paid in full) realised 18s. 6d., but those of 30s. paid-up were ineffectually offered for sale. General Mining Company for Ireland shares have been passed over.

The UNITED KINGDOM PATENT FUEL COMPANY has been incorporated with a capital of 100,000l., in shares of 10l. each, for the purpose of purchasing and extending the operations of the London Patent Fuel Company, which has been in successful operation for the past two years, and whose works and processes were described in the Mining Journal of June 2. It is very truly observed in the prospectus, which will be found in another column, that while it is believed that there is little cause for alarm in anticipation of a stoppage in the supply of coal, it is, nevertheless, open to grave apprehension whether the extraordinary waste now going on will not eventually cause such an advance in its price as to materially cripple the industry and manufactures of the country. The demand for the fuel is limited only by the means of supply, and a large revenue in addition is reasonably expected from the sale of licenses, the present charge for which is 200l., and a royalty of 1s. per ton. Negotiations are now pending with some of the largest coalowners in the kingdom, to the benefit of which, when completed, the shareholders of the present company will be entitled. Messrs. E. L. Cockerell and Co., of Pimlico and Westminster, have undertaken to act as agents for the introduction of the fuel to their customers and the public; and as Mr. E. L. Cockerell has accepted office in connection with the management of the company, the value of his large experience in the coal trade will doubtless be made available to the company. As there has already been shown to be a clear profit of 5s. upon every ton manufactured, the prospects of the undertaking can be at once judged of.

At Camborne Ticketing, on Thursday, 3924 tons of ore were sold, realising 13,125l. 13s. 6d. The particulars of the sale were:—Average standard, 100l. 10s.; average produce, 6l.; average price per ton, 3l. 7s.; quantity of fine copper, 237 tons 19 cwt. The following are the particulars:—

Date.	Tons.	Standard.	Produce.	Per ton.	Per unit.	Ore copper.
July 5, 1866	2574	100 12 0	6 1/2	63 19 0	12s. 0d.	£60 0 0
" 12, "	1652	98 0 0	7 1/2	4 7 6	12 0	60 4 0
" 19, "	5329	107 6 0	5 1/2	3 8 0	11 4	59 16 0
" 26, "	2590	96 10 0	6 1/2	3 18 6	11 0	56 14 0
Aug. 2, 1866	3924	100 10 0	6 1/2	3 7 0	11 0	55 0 0

Compared with last week's sale, the standard has slightly declined. Compared with the corresponding sale of last month, the decline has been in the standard 3l. 15s., and in the price per ton of ore about 5s.

The following dividends were declared during July:—

Mines.	Per share.	Amount.
Devon Great Consols	£6 0 0	£6144 0 0
South Caradon	5 0 0	2560 0 0
Marke Valley	0 2 0	900 0 0
Cwm Erfin	1 0 0	867 0 0
East Caradon	0 2 6	768 0 0
East Pool	5 0 0	640 0 0
Port Phillip	0 1 0	4875 0 0
Total		£16,754 0 0

At South Caradon Mine meeting, on Tuesday, the accounts showed a credit balance of 6329l. 3s. 4d. The profit for March and April was 5165l. 8s. 6d. A dividend of 2560l. (6l. per share) was declared, and 3779l. 3s. 4d. carried forward. [The report is among the Mining Correspondence.]

At Central Snailbeach meeting, at Shrewsbury, on Tuesday (Mr. Job Taylor in the chair), the accounts showed a credit balance of 2656l. 18s. 9d. The report of the manager, Captain John Kitter, stating that the machinery, &c., was in excellent order and working well, was read, and in a general conversation on the merits of the mine it was stated that Capt. Walter Eddy had reported the ore at the bottom of the sump, which is now being unwatered, to be worth from 1 1/2 to 2 tons per fathom. The Chairman said that within the last few days they had met with a valuable discovery in the old mines, driving towards Central; he said he had been connected with Central from the beginning; that he was a large shareholder, and that nothing should induce him to part with his interest, as he felt assured they had a most valuable property. Great satisfaction was expressed by many of the shareholders at the energetic

manner in which the works were being carried out, and gave Capt. John Killo and the directors great credit for the exertions they were using to bring the mine into a profitable state. The usual courtesies to the Chairman terminated the proceedings.

At North Crofty Mine meeting, on July 26, the accounts showed a debit balance of 7847. 11s. A call of 2s. 6d. per share was made. Capt. Vivians, Thomas, and Bennett say—"We are happy to say that the mine continues to open up very well, and we contemplate raising in the next four months from 45 to 50 tons of tin."

At East Basset Mine meeting, on Tuesday, the accounts showed a credit balance of 3907. The loss upon the two months' operations was 1427.

At Crane Mine meeting, on July 26, a call of 27. per share was made.

At Pedn-an-dren Mine meeting, on Tuesday, the accounts showed a credit balance of 9122. 11s. 2d. The arrears of calls are 14197. 15s. 3d.; and owing to merchants, 42937. 13s. 8d. A call of 6s. per share was made. Capt. Tregay and Thomas say—"If the shareholders 'determinedly push through the present time of low price of tin, until a fair price is obtainable, these mines will be found to be profitable, and the expenses already sustained, and reward the trouble and anxiety in carrying them through."

At Wheal Sparrow meeting, on Tuesday, the accounts showed a debit balance of 24907. The arrears of calls are 3067. 13s. 6d. A call of 6s. per share was made. Capt. Tregay and Chegwain say—"We think we are likely to long to realise something more substantial than promises, both on the south lodes, the rise in back of the 20, and in the bottom of the sump, where we shall soon reach the dip of the shoot of tin in the western slope, and, no doubt, of its improving as it goes down. These are the objects we have in view, and each of them offers good prospects of early success."

At the Hawkmoor Mine meeting, on Tuesday, the committee were empowered to invite tenders for the sett, plant, and machinery, by advertisement or otherwise, and that it be left to their discretion to accept or decline any tender that may be made.

At the Consolidated Copper Mines of Cobre Association meeting on Tuesday (Mr. H. R. Grenfell, M.P., in the chair), the report of the directors was adopted, and it was agreed to increase the capital from shares of 400, to 500, each, and to register the company with limited liability. Details elsewhere.

At Port Phillip and Colonial Gold Mining Company (extraordinary) meeting, on Monday (Mr. John Diston Powles in the chair), the usual distribution of 1s. per share (being at the rate of 10 per cent. per annum), on account of the year's profits, was declared. Details in another column.

At the Australian Mining Company annual general meeting, on Monday (Col. G. Palmer in the chair), the directors' report was adopted. Details in another column.

At the English and Australian Copper Company meeting, on Thursday (Mr. R. A. Routh in the chair), the report, which, considering the position of the copper trade, was by no means unfavourable, and the accounts were unanimously adopted. Details in another column.

The Bank of England return for the week ending on Wednesday evening was decidedly unfavourable, but this may be in a measure accounted for by assuming that many have been preparing for the fourth (or rather third) of the month. The repayment to the Bank upon the other securities "show" scarcely any fully paid, while the item stands fully 5,000,000, too high, with the reserve 2,000,000, too low, there can be no substantial grounds for expecting a diminution in the minimum rate, and should such a step be determined upon it could only have the effect of creating a temporary improvement, at the cost of a more disastrous loss of confidence in a few months. The continued announcement of both bank and traders failures proves beyond question that the unhealthy have not yet been separated from the healthy parts of the commercial body. There is, nevertheless, signs of gradual, though steady, return to solidity, and if the Bank's position improves during the month, to an extent equal to the improvements of the last, a very different feeling in commercial circles may be anticipated. In the ISSUE DEPARTMENT there is shown an increase in the notes issued of 39,215, represented by a corresponding increase in the coin and bullion on the other side. In the BANKING DEPARTMENT there is shown on the liability side a decrease in the "other deposits" of 807,918, from which must be deducted an increase in the "public deposits" of 672,131, an increase in the "seven day and other bills" of 51,844, and an increase in the "rest" of 28,600, together 722,521, leaving a total decrease on the liability side of 55,297. On the asset side of the account there is shown an increase in the "Government securities" of 309,000, from which must be deducted the decrease in the other securities of 174,948, -125,052, which added to 55,297, the decrease on the liability side, shows a decrease in the total reserve of 180,349.

On the Stock Exchange there has been a fair demand for Mining Shares during the week. The following prices were officially recorded in British Mines:—West Chiverton, 67; Herodsfoot, 30, 32; Great Laxey, 19, 20, 19, 20, 19; Chiverton, 5, 5, 5, 6; Great Wheal Vor, 18, 19. In Colonial and Foreign Mining Shares the prices were:—Cape Copper, 8, 9, 9; Scottish Australian, 4; Yudanamatuna, 4, 4, 4. In Foreign Mining Shares the prices were:—St. John del Rey, 48, 47, 47, 48, 46; Chontales Gold, 1, 1, 1; Washoe Gold, 1, 1, 1; Frontino and Bolivia Gold, 4, 4, 4; Cobre Copper, 6, 1, 3, 2, 4, 2, 3; Don Pedro North del Rey, 4 prem.

THE COPPER TRADE.—Messrs. Vivian and Younger (Aug. 2) write:—"Early in the week a strong demand set in for all descriptions of raw copper. There were eager buyers of fine foreign and tough, at a considerable advance on last week's prices, and orders were offered the smelters so freely for tough ingots that they declined to sell at their quotations. This demand was principally speculative, and when it was announced that no alteration was made in the Bank rate buyers were by no means so anxious to operate, and the market closed quiet, with a tendency to go back a little. The general demand has been rather checked by the advance asked. The mail from Chili, delivered on Monday, advised four charters only. The probable shipments from thence for the second quarter of this year being estimated at 12,000 tons, making 25,000 tons for the first six months. Notwithstanding the heavy sales out of stock during the last month, amounting (exclusive of that sold at the Ticketings) to over 6500 tons of fine copper, the stock on the first of the month showing the trifling reduction of about 200 tons, which is not so favourable as might have been anticipated. The available stock of bars, ores, regulus, and ingots, at Swansea, London, and Havre is thus estimated in fine copper:—Aug. 1, 1866, 19,616 tons; Aug. 1, 1865, 16,989; Aug. 1, 1864, 16,327 tons.

THE COPPER TRADE.—Mr. Pitts-Campbell (Liverpool, July 31) reports:—"Before the dispatch of the last mail, and speedily after the issue of our report, the smelters reduced their official quotations 5s. per ton, to 86s. for manufactured, and 81s. for unmanufactured; but, as they had already accepted even lower prices than these, no effect was produced by the step. Importers having freely met the market, very large transactions have taken place during the fortnight in raw material, both for export and to the smelters, and we close with marked improvement, indicating that with easier money a much healthier state of things may be witnessed than has existed for some time. The shipments advised by the mail on June 17 from West Coast, and just arrived, are not heavy, only representing 650 tons pure copper. Those for April amounted to 4925 tons, and for May 3921 tons pure copper—the estimates for the second quarter, of 270,000 sales or 12,250 tons, which we gave in our report of the 15th ult., being confirmed. Quales since our last—

Date	Quantity	Price	Per ton
July 17.—25 tons ingots, Urmeneta, ex Paracca	25	87	0
July 18.—20 tons ingots, Urmeneta, ex Paracca	20	87	0
July 19.—12 tons bars, at Swansea, ex Colorado	12	80	0
July 24.—225 tons bars, at Swansea, ex Pembroke Castle	225	73	0
July 24.—174 tons bars, at Swansea, ex Pembroke Castle	174	73	0
July 25.—450 tons ore, on spot here, ex Comest	450	0	13 6
July 25.—200 tons bars, at Swansea, ex Pembroke Castle	200	74	0
July 25.—207 tons ingots, at Swansea, ex Pembroke Castle	207	78	0
July 25.—129 tons ingots, at Swansea, ex Colorado	129	78	0
July 25.—261 tons ingots, at Swansea, ex Beta	261	78	0
July 25.—10 tons ingots, on spot here, ex Lima	10	78	0
July 25.—2 tons ingots, on spot here, ex Fusiller	2	78	0
July 25.—1200 tons ore, Moonta, at Swansea	1200	0	13 4
July 26.—26 tons bars, at Swansea, ex Pembroke Castle	26	74	0
July 26.—174 tons bars, at Swansea, ex Beta	174	74	0
July 26.—593 tons ore, at Swansea, ex Coquilbana	593	0	13 6
July 26.—600 tons ore, at Swansea, ex San Jose	600	0	13 6
July 27.—250 tons bars, at Swansea, ex Beta	250	74	0
July 27.—448 tons regulus, at Swansea, ex San Fernando	448	0	14 0
July 27.—459 tons regulus, at Swansea, ex San Fernando	459	0	14 0
July 27.—467 tons regulus, at Swansea, ex Pathfinder	467	0	14 0
July 27.—255 tons regulus, at Swansea, ex Ismay	255	0	14 0
July 27.—110 tons regulus, at Swansea, ex Delta	110	0	14 0
July 27.—29 tons ore, at Swansea, ex M. A. Holman	29	0	14 0
July 27.—106 tons ore, at Swansea, ex San Fernando	106	0	14 0
July 27.—338 tons ore, at Swansea, ex Vencedora	338	0	14 0
July 27.—330 tons ore, at Swansea, ex Black Watch	330	0	14 0
July 27.—127 tons ore, at Swansea, ex Delta	127	0	14 0
July 30.—308 tons ore, at Swansea, ex Delta	308	0	14 0
July 30.—58 tons regulus, on spot here, ex Polstar	58	0	14 0

Ores.	Regulus.	Bars.	Ingots.	Barilla.
Colima, Africa	—	—	—	15
Ann Cheshyre, Lota	—	—	35	37
Atahualpa, Lota	—	—	—	110
Alice, Carizal	—	—	500	—
Contest, Chanaral	550	—	—	—
At Swansea—Edgar, Chanaral	115	—	—	—
Beta, Guayacan	—	—	426	261
Gamma, Caldera	—	—	688	—
G. Grenfell, Caldera	—	—	61	—
Wm. Leckie, Pena Blanca	—	—	620	—
Claunder, Caldera	163	—	515	—
Josiah Stowe, Taltal	345	—	475	—
San Jose, Caldera	604	—	—	—
Dorsetshire, Carizal	119	—	—	—
Chelydra, Tongoy	420	—	52	—
Stock of copper produce (Chilian and Bolivian) in first and second hands likely to be available	Ores.	Regulus.	Bars.	Ingots.
Liverpool	2042	3735	2335	523
Swansea	8747	7925	374	—

Quotations are 14s. for ores and regulus, 74s. to 74s. 10s. for bars, 78s. for ingots, and 15s. 9d. for Barilla, nominally.—P.S. The Pride of the Thames has arrived with 500 tons bar copper.

British Association for the Advancement of Science.

BRITISH ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.—THE NEXT ANNUAL MEETING of the Association will be held at NOTTINGHAM, on WEDNESDAY, August 22, and the following days, under the Presidency of W. R. GROVE, Esq., Q.C., F.R.S., &c.

Notices of Papers proposed to be read should be sent to the Assistant-General Secretary without delay.

Information concerning the local arrangements may be obtained from the local secretaries at Nottingham (Dr. Robertson; E. J. Lowe, Esq., F.R.A.S.; Rev. J. F. McCallan).

GENERAL SECRETARY—Francis Galton, Esq., F.R.S., 42, Rutland-gate, London. ASSISTANT GENERAL SECRETARY—George Griffith, Esq., 5, Park Villas, Oxford. GENERAL TREASURER—W. Spottiswoode, Esq., F.R.S., 50, Grosvenor-place, London.

Royal Cornwall Polytechnic Society.

THE THIRTY-FOURTH ANNUAL EXHIBITION OF THE ROYAL CORNWALL POLYTECHNIC SOCIETY, for the ENCOURAGEMENT OF SCIENCE AND THE FINE AND INDUSTRIAL ARTS, will be held at the Society's Hall, FALMOUTH, on FRIDAY, September 14, 1866, and SIX FOLLOWING DAYS. Silver and other Medals and Money Prizes will be awarded in the following departments:—viz., Mechanical, Mining, Naval Architecture, Professional Fine Arts, Photography, Statistics, Plain and Fancy Work, School Productions, &c.

Inventors, Manufacturers, Artists, and others who may be desirous of exhibiting are requested to communicate with the Secretary. Any further information that may be desired as to time, rules, transit of articles, list of prizes and premiums, &c., will be forwarded on application. No charge for space.

Space or insertion in the Catalogues or Judges' Books cannot be guaranteed after Saturday, Sept. 8. Communications should be addressed to Mr. SYDNEY HOPKES, Secretary, Polytechnic Hall, Falmouth. July 23, 1866.

SOME HUNDREDS PER CENT. PROFIT can be MADE BY PURCHASING THE SHARES OF A MINE, which will have an immediate and considerable rise in price. The name and particulars can be had by sending 30 postage stamps to Mr. HUGH TRAYLOR, Post-office, Morrice Town, Devonport, who has recommended similar investments, which have increased in value from £263,000 when recommended to £1,800,000 in market value subsequently. This is a bona fide thing, and should have immediate attention.

BARYTA COMPANY (LIMITED).—By order of the Directors, NO FURTHER APPLICATIONS can be RECEIVED FOR SHARES.

THE WORTHING MINING COMPANY (LIMITED).—Notice is hereby given, that the ORDINARY GENERAL MEETING of the shareholders in this company will be HELD at the offices, 29, St. Helen's-place, Bishopsgate-street, London, E.C., on MONDAY, the 13th day of August next, at Two o'clock in the afternoon precisely, to receive the report of the directors and the accounts and balance-sheet for the past year, to elect directors and auditors, and to transact the ordinary business of the company.

By order of the Board, W. J. LAVINGTON, Secretary. 29, St. Helen's-place, July 27, 1866.

ANGLO-BRAZILIAN GOLD COMPANY (LIMITED).—Notice is hereby given, that the THIRD ORDINARY GENERAL MEETING of the company will be HELD at the London Tavern, Bishopsgate-street, in the City of London, on TUESDAY, the 7th day of August, 1866, at One o'clock precisely, for the transaction of the business of the company, including the election of auditors.

By order of the Board, JOHN E. DAWSON, Secretary.

PORTABLE STEAM-ENGINES (SECOND-HAND) FOR SALE.—TWO 20-horse, by ROBEY, of Lincoln; TWO 10-horse, by CLAYTON, SHUTTLEWORTH, and Co., and a 7-horse; also a 10-horse RETURN FLUE ENGINE; and also FOUR OTHER ENGINES, out of repair, which will be disposed at a moderate price.—For particulars, apply to MEAD and Co., No. 2, King's Bench-walk, Temple, E.C.

STEAM ENGINES FOR SALE.—60-inch PUMPING ENGINE equal beam, 10 ft. stroke, with TWO 10-ton BOILERS; 36-in. CYLINDER SINGLE-ACTING ROTARY ENGINE, 14 ton fly-wheel, with 9-ton BOILER; 18-inch CYLINDER DOUBLE-ACTING ROTARY ENGINE, with drawing gear, whim cage, and 7-ton BOILER, the whole in good condition, to be seen at Kelly Bay Mine, Callington, Cornwall.—For further particulars and price, apply to Mr. EDWARD KING, 22A, Austinfriars, London.

NOTICE.—CAPT. S. M. RIDGE, of LLANIDLOES, MONTGOMERYSHIRE (late manager of the Brynastig and Cwm Ffion Mines, and others, in Shropshire and Wales), is NOW OPEN to INSPECT and faithfully REPORT UPON ANY LEAD MINE in either of these localities that may be confided to his care, having had better than 30 years' experience in lead mining, as miner and agent.—Address, Capt. S. M. RIDGE, Llanidloes, Montgomeryshire.

CAPT. J. RABEY OFFERS FOR SALE FIFTY SHARES, at the net price of £3 per share, in the CAL-R-PANT MINE, joining the great Minera Mine, and one of the best prospects in the district, being all whole ground, and the mine paying for itself now at the shallow depth of 40 yards.—Address, Capt. J. Rabey, Coodporth, near Wrexham, Denbighshire, North Wales.

CAPT. RICH, BODMIN, CORNWALL, being in the centre of the mining districts of Devon and Cornwall, and having had 25 years' experience in the management and inspection of mines, OFFERS HIS SERVICES to INSPECT and REPORT on MINES in either of the above counties. Orders promptly attended to.

TO MINE, SLATE QUARRY, AND RAILWAY COMPANIES.—CAPT. C. WILLIAMS is NOW OPEN to UNDERTAKE ALL KINDS OF CONTRACTS, such as DRIVING LEVELS, SINKING SHAFTS, CONSTRUCTING WATER COURSES, CANALS, TRAMWAYS, &c., and ERECTING ALL SORTS OF MACHINERY for MINING and OTHER PURPOSES, having on hand at all times a first-class staff of miners and machinists, who will proceed to any part of the world upon the shortest notice. N.B.—In all cases 50 per cent. will be left in hand until the work is complete. Tyn-y-Wern, Taliesin, via Shrewsbury.

MR. GEORGE DARLINGTON, CONSULTING MINING ENGINEER (Graduate of the Royal School of Mines), GROVE PARK, WREXHAM.—MR. DARLINGTON is OPEN to ACCEPT ENGAGEMENTS to REPORT UPON, MODEL, or ARRANGE MINES or MINING WORKS, and from his practical and varied experience in all kinds and classes of mines, both abroad and at home, especially on the Continent, in America, and in Australia, he can confidently offer his services to those who may require faithful reports or examinations of mining properties at home or abroad. MR. DARLINGTON speaks French and German fluently, and is acquainted with the mining laws of those countries.

BOGHEAD CANNEL.—MR. JOHN MACKENZIE, late GOVERNMENT INSPECTOR OF COAL FIELDS, having resigned his appointment to TAKE UP HARTLEY BOGHEAD CANNEL in NEW SOUTH WALES, yielding from 100 to 150 gallons of oil per ton, is READY TO TREAT with ENGLISH CAPITALISTS either for WORKING, LEASING, or SELLING ONE of the SECTIONS, for making refined oil for colonial and foreign use. Extent and position of deposits can be ascertained from plans and particulars deposited at the MINING JOURNAL office, 26, Fleet-street, London; and plans, sections, photographs, and specimens will be forwarded on application to Mr. MACKENZIE, Civil Service Club, Sydney, New South Wales. Cost price of making and delivering refined oil in Sydney is proved to be about 1s. 9d. per gallon. The deposits being isolated patches, competition is to a certain extent limited.

ELFORD, WILLIAMS, AND CO., COPPER ORE WHARFINGERS, SHIP BROKERS AND COAL EXPORTERS, METAL AND GENERAL COMMISSION AGENTS, SWANSEA.

ELFORD, WILLIAMS, and Co. having erected an assay office, and engaged the services of a practical Cornish assayer, who will devote his whole time to this branch of their business, they are now in a position to make correct assays of silver, copper, and other mineral ores, on the most moderate terms.

THE WEST GREAT ST. GEORGE COPPER MINING COMPANY (LIMITED). Incorporated under the Joint-Stock Companies Act, 1862, whereby the liability of shareholders is limited to the amount of their shares. In 6000 shares, of £5 each. £1 payable on application, and £1 on allotment.

If no allotment be made the deposit money will be returned. Capital £30,000, of which a large proportion is subscribed by the following shareholders:—

JOHN CROSSLEY, Esq.	(Messrs. John Crossley and Sons, Limited, Halifax).
JOSEPH CROSSLEY, Esq.	(Messrs. John Crossley and Sons, Limited, Halifax).
R. WATSON, Esq.	(Messrs. J. Watson and Brothers), Church, Accrington.
HENRY AMBER, Esq.	Watkinson Hall, near Halifax.
F. APPELBY, Esq.	Applby House, railway contractor, Manchester.
JOHN APPELBY, Esq.	merchant, Manchester.
LEO LOEWENSTEIN, Esq.	(Messrs. Leo Loewenstein and Co.), Manchester.
J. VOILE, Esq.	Birmingham.
CHARLES CLAY, Esq., M.D.	Piccadilly, Manchester.
BANKERS—The Manchester and Liverpool District Banking Co., Manchester.	
Messrs. Roberts, Lubbock, and Co., London.	
Messrs. Williams, Williams, and Co., Truro, Cornwall.	
SOLICITORS—Messrs. Sale, Worthington, Shipman, Seddon, and Sale.	
AUDITORS—Messrs. Worthy Williams and Co., Manchester.	
SECRETARY—Mr. Hugh Fleming.	
SHAREBROKERS.	
Messrs. R. C. Clifton and Co., Aldine Chambers, Princess-street, Manchester.	
RESIDENT AGENT—Captain Walter Thomas, Redruth, Cornwall.	
REGISTERED OFFICES OF THE COMPANY.	
YORK CHAMBERS, KING STREET, MANCHESTER.	

Applications for shares must be addressed to Messrs. R. C. CLIFTON and Co., the sharebrokers to the company; or to Mr. HUGH FLEMING, the secretary.

Now ready, price 5s., by post 5s. 4d., **THE MINES OF CORNWALL AND DEVON: STATISTICS AND OBSERVATIONS, for 1865.** By THOMAS SPARGO, Mining Engineer, Stock and Sharebroker, Greenham House, Old Broad-street, London, E.C.

In Chancery.

THE MASTER OF THE ROLLS AT CHAMBERS.

IN THE MATTER OF THE JOINT-STOCK COMPANIES WINDING-UP ACTS, 1848 and 1849, and of the MEXICAN AND SOUTH AMERICAN COMPANY.—By direction of the Master of the Rolls, the Judge of the High Court of Chancery to whose Court the winding-up of this company is attached, notice is hereby given that the said Judge will, on Monday, the 7th day of August, 1866, at Two o'clock in the afternoon, at his chambers, Rolls-yard, Chancery-lane, in the county of Middlesex, PROCEED to MAKE a CALL on the several persons who are settled on the list of contributories of this company, and that the said Judge purposes that such call shall be for ONE POUND PER SHARE.

All persons interested are entitled to attend at such day, hour, and place, to offer objections to such call. ROBERT MARSHALL, Chief Clerk.

Dated this 26th day of July, 1866. R. P. HARDING, 3, Bank-buildings, and 5, Serle-street, Lincoln's Inn, Official Manager.

TRAVERS, SMITH, AND DE GEX, 25, Trogmorton-street, Solicitors.

FOR SALE, a COMPLETE SET of the MINING JOURNAL for 1863, 1864, and 1865.—Address, "Box W 54," Post-office, Manchester.

ORE FOR SALE.—TO BE SOLD about FIFTY TONS of GOOD MUNDIC, containing a considerable amount of silver.—Apply to Capt. DINGLE, New Trelawny Mine, near Liskeard, Cornwall.

MINING IN THE NORTH OF PORTUGAL.—A RESIDENT in PORTUGAL, having a VALUABLE SILVER-LEAD MINE, and a COPPER MINE, both in excellent situations, and with water-power, is DESIROUS of MEETING with a PARTY to WORK them, upon very advantageous conditions.—For further particulars, apply to Messrs. JAS. WOOLCOTT and Co., 1, Laurence Pountney-hill, Cannon-street, London, E.C.

A PROFESSIONAL MAN, being about to PROCEED to the SOUTH OF EUROPE, and who intends to SETTLE in ITALY, will be happy to INSPECT and REPORT on MINING PROPERTIES.—Address, "Geologist," MINING JOURNAL office, 26, Fleet-street, London, E.C.

A GENTLEMAN, well versed in Joint-Stock Companies, and with a knowledge of Mining and Slate Quarries, is OPEN to an ENGAGEMENT as SECRETARY or MANAGER.—Address, "X. L.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

A GENTLEMAN having an extensive connection with merchants, manufacturers, and others, would be GLAD to UNDERTAKE the SALE of PATENTED ARTICLES or INVENTIONS, upon commission.—Apply to Mr. W. T. RAWLE, patent and mining agent, 8, Small-street, Bristol.

A PARTNER, OR PARTNERS, WANTED, who can command £5000, to JOIN in a COLLIERY of the best house coal in SOUTH WALES, for the further developing the workings, and other purposes. The small coal is excellent for coking.—Apply to "A.," MINING JOURNAL office, 26, Fleet-street, London, E.C.

IMPORTANT TO CAPITALISTS AND MINING COMPANIES.—THE ADVERTISER, who is a Cornish Mining Captain of 40 years' experience, both in England, Wales, Ireland, France, and Italy, and now resident in the latter country, is OPEN to an ENGAGEMENT to INSPECT MINING PROPERTIES. The Advertiser is also in possession of, and acquainted with, several VALUABLE PROPERTIES, containing lodes of GOLD, SILVER, LEAD, COPPER, and NICKEL ORES, which he is authorised to DISPOSE OF. He will be happy to afford information on all points connected with mining. All applications to be addressed Captain JOHN KESSELI, Burgofranco, Ivrea, Italy; or Scoppello Mines, Scoppello, Val-Sesia, Piedmonte.

JOSEPH TAYLOR and CO., CIVIL, FINANCIAL, MINING, AND GENERAL AGENTS, 17, CROSS STREET, MANCHESTER. DEALER IN MINING AND OTHER SHARES.

MESSRS. C. THOMAS AND CO., CIVIL AND MINING ENGINEERING OFFICES, POOLFOLD CHAMBERS, CHAPEL WALKS, MANCHESTER, AND REDRUTH, CORNWALL.

BEARDWOOD, JONES, AND CO., 17, CHANCERY CHAMBERS (Opposite the Custom House), LIVERPOOL, FORWARDING, COMMISSION, AND SHIPPING AGENTS. Being intimately acquainted with the shipping of Iron, Hardware, Crates, &c., to all ports, we can offer superior advantages to Merchants and Manufacturers, both in low freights and moderate shipping charges. Marine Insurance effected.

Date.	Mines.	Tons.	Amount.	Purchasers.
July 24.—Wheal Trelawny	60	£25 5 0	—	Burry Port Co.
— ditto	60	5 10 0	—	Micell & Son.
27.—Harwood	20	13 8 0	—	The London Lead Co.
30.—East Logylas	50	11 9 0	—	Panther Lead Co.
— Glogfash	70	15 4 6	—	Sheldon, Bush, & Co.
— Cwmystwith	85	11 2 6	—	Walker, Parker, & Co.

Date.	Mines.	Tons.	Amount.	Purchasers.
July 31.—Great Laxey	800	£3 10 6	—	Vivian and Sons.

Date.	Mines.	Ts. c. q. lbs.	Price p. ton.	Amount.	Purchasers.
July 26.—Wb. Kitty	15	11 2 18	—	£ 693 8 9	—

July 18—Wheal Seton	15	£3 8 0	July 18—West Tolguis	85	£3 3 6
Pendarves	104	3 11 6	— ditto	80	3 1 6
— ditto	101	3 2 6	— ditto	61	3 1 6
— ditto	96	0 19 6	— ditto	61	3 1 6
— ditto	93	3 14 6	— ditto	11	3 10 6
— ditto	91	3 8 6	South Crofty	77	2 10 0
— ditto	85	0 17 6			

COPPER ORES.

Sampled July 18, and sold at Tyack's Hotel, Camborne, Aug. 2.

WATSON AND CUELL'S MINING CIRCULAR.

WATSON AND CUELL,
MINING AGENTS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MESSRS. WATSON AND CUELL having made arrangements for transferring their weekly Circular, which has had so large a circulation during the past ten years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and the state of the share market, will in future appear in this column.

In the year 1843, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. J. Y. WATSON, F.R.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON and CUELL have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON and CUELL, they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON and CUELL transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON and CUELL also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON and CUELL are also daily asked their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommendations to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON and CUELL having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

PRINCE OF WALES.—It is very gratifying to us to find that the reports of independent agents, who went underground as soon as the water was out on Saturday last, fully confirm all the statements made as to the value of the lode, and the great prospects of the mine. Mr. HITCHINS, who was first underground, valued the lode in the 45 west at 30l. to 40l. per fathom, and yielding magnificent ore. He adds—"I am satisfied that our prospects are daily improving, and that the lode will make not only in length but in depth. The engine I am quite satisfied with, and so were all those who saw it, and on its moving off in public that discerning body made the whole place resound with cheers." Other agents value the lode at 40l. per fathom, and it is being driven for 3l. per fathom. The engine forced the water with ease in 30 hours, and is capable of carrying the mine down 100 fathoms. An independent agent, who had never seen the mine before, went underground for us this week, and valued the 45 east the same as other people; he also thinks the 45 west will be found equally good between the cross-courses. He considers the north lode will be found productive; and adds—"You have here, most undoubtedly, a very valuable mining property." Of course there will be fluctuations in shares, but in the firm belief that those who hold the longest will get the most money, we refused 2000l. on Monday for 1000 shares. When there are no orders on the market to buy, the quotations are put down, and when the public see them falling they think there must be something wrong, and telegraph up to sell. This causes further flatness, and enables the "bears" to make money, and now that there can be no doubt as to the value of the lode the cry of the "bears" is that it is too rich to last. We wish the same could be said of many other mines we could mention.

NEW EAST RUSSELL.—"A."—We hope to see this mine turn out another Prince of Wales; but we cannot answer the questions asked this week. The shares are held in few hands, and we cannot name the price at present.

"R. E."—We believe the agents are expecting a great improvement.

THE BARYTA COMPANY, AND THE MINES PURCHASE AND FINANCE COMPANY (Limited).—The holders of more than half the capital of the latter company having since last week appeared to the directors not to sell the Baryta Quarry, but to work it themselves, they have consented to do so, and it is now in operation. The directors themselves had always a wish to adopt this method, having ample working capital, and the quarry bids fair to make immediate and very large returns. Those who applied for shares in the Baryta Company will have their money returned in full.

GREAT RETALLACK.—At the present moment there is not a better speculation anywhere than this, and we should be glad to join parties in buying it up, and erecting an engine, which could be had very cheap just now. The lead lode is as promising as any at the depth in the Chiverton district. In June the mine sold 89 tons of blende, and in July 97 tons. Immediate steps will be taken to forfeit all shares in arrears of calls, so that those who have paid regularly shall have the benefit of the present discovery.

MINING, METALS, AND MINERALS—PATENT MATTERS.

By M. HENRY, Memb. Soc. Arts, Assoc. Soc. Eng.

The following Provisional Patents have been applied for during the past week:—On July 25, No. 1296, SELWYN, Tring, shaping metals; No. 1303, LIVESLEY, Westminster, refining cast-iron; No. 1304, BROOMAN (communication from Bernabe, Paris), rendering armour-plates inextinguishable; No. 1308, NEWTON (communication from Savage, West Meriden, U.S.), converting iron into steel, and plating, hardening, and tempering iron and steel.—July 30, No. 1362, PICKERING, Stockton, hot-blast.

The following have lodged Notices of Intention to Proceed with their applications for patents:—No. 821, NAYLOR, preventing smoke; No. 822, DALBY, cutting coals and minerals; No. 1442, MARGAIS, treating slags, ores, and compounds of tin. The last-named application, the provisional specification of which was drawn by Mr. Henry, patent agent, Fleet-street, relates to a treatment of compounds of tin; but as the final specification will not be open to the public till next November, reference to the application must for the present be restricted to a mere mention of the subject matter of the title.

The following appear among sealed Patents:—No. 226, ROBERTSON, Glasgow, excavating, dredging, &c.—No. 320, LUCY, Liverpool, fastening ball-bands.—No. 911, NOAKE, Wolverhampton, iron safes and strong boxes.

The following Specifications have been recently printed:—

No. 2363, NEWTON (communication from Wardell, United States), for cutting stone. He describes a machine moving on a rack, and carrying reciprocating cutters, supported in standards outside the carriage. He combines two or more cutters, connected by head and foot clamps, and sliding between guides supported outside the frame. The outside standard may be hinged to some part of the frame, so as to be opened or closed. The cutters are actuated by straps worked by a vibrating beam. Separated cutters may be combined with serrated head-clamps. There are various other claims in the specification. In specification of patent, No. 2350, Messrs. BELL, of Plaistow, describe apparatus for calcining and roasting copper and other ores and substances containing sulphur. A rotary retort is employed. This retort is set in an inclined position in a chamber, and it is heated; the ores descend, and become turned over in the retort, so as to present continually fresh surfaces to the action of air caused to pass through the retort, the lower end of which passes through the chamber, and delivers into another chamber with an inclined floor. The upper end of the retort communicates with a sulphuric acid chamber.—SWEET and STEVENSON, No. 2391, have filed a provisional specification for separating dust from gases, causing them to travel very slowly, say at the rate of 1 foot per second, through a very large tube or box, with shelves or trays placed closely together. This application has not been proceeded with.—WORSAM, No. 2382, describes a mode of consuming furnace-smoke, by a tube or cylinder in front of the furnace over the fire, having at one end a fan-shaped casting, or hollow body, and fitted with steam-pipes.—THOMPSON, No. 2411, specifies a mode of dressing and smoothing stones without cutting-tools, by placing them in cases, and causing them to revolve in opposite directions, but in contact.—WATKIN, No. 2405, describes the use in furnaces of a tube open to the air, and fixed to a second tube opening into the furnace, air being injected by and with steam.—BOFFERY and SMITH, No. 2490, specify a mode of coating metal surfaces by a composition of whitening (or, as it is mostly called, whitening), mastic, and linseed oil—white lead being sometimes used in the composition.—ADDENBROOKE and MILLWARD, No. 2507, specify the collecting of gases of furnaces, by an arrangement of openings, which draw them off from the exterior of the circle or neck, so as to obtain a greater area.—BROOKBENT, No. 2384, describes a safety-apparatus for cages and hoists, in which he proposes to apply to each side of the uprights a weighted eccentric, joined to studs fixed to the stage, and connected by adjustable links to chains attached to the rope; the strain on the chains will hold the eccentrics clear of the guides, but if the rope or chain should break, the eccentrics will be brought into contact with the guides, and bind them. The surface of the eccentrics may be serrated.—HUGHES, No. 2502, specifies apparatus for shaping metals, by means of rolls, with sliding sectors or segments, for obtaining intermittent motion of the article to be treated, which is presented to the rolls at the smallest possible radius. He also describes certain peculiar cutters, and a mode of arranging rolls in eccentric-gear bearings, in connection with a revolving wheel-grip. He further claims rolls with graduated or cammed working or pattern surfaces.—SALISBURY's specification, No. 2527, filed by Mr. Henry, patent agent, Fleet-street, is for producing and combining gases for heating purposes, by using the gases of oil, water, and air, or of oil and water only, in combination with gases obtained from the fires of ordinary furnaces. He also describes a retort for generating gases, and a tubular retort, composed of an inner and an outer perforated tube. He constructs grates of a series of such tubular retorts. He likewise specifies a bent retort, with two legs or limbs.—SALISBURY has also taken a patent, No. 2528, the specification of which, filed by Mr. Henry, patent agent, Fleet-street, refers to blast-furnaces, in which are used blasts or currents of gases of oil, water, and air combined. He also claims blasts or currents of heated lime-water vapour, and likewise the use of return passages for converting gases from the furnace back to its lower part, and passing them again and again through the furnace.

RAILWAY CALLS.—The amount falling due in Aug. is 1,430,350l.,—making the total called for the eight months of 1866, 9,560,651l.

Notices to Correspondents.

*. Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt: it then forms an accumulating useful work of reference.

JORDAN'S COMBINATION STEAM-BOILER.—I read with much interest the letter of your correspondent, "D." in the Journal of July 14, on "Jordan's Combination Boiler," and also the article in last week's Journal, on the same subject; and I should esteem it a great favour if any of your correspondents would inform me whether the invention has been so fully tried as to establish its success, and where boilers, constructed on this principle, can be seen in actual operation?—ENGINEER.

CHAIN-PUMPS.—Will any of your readers, through the medium of your columns, inform me what main difference there is existing between Murray's chain-pumps and those lately patented by Bastier, with the advantages and disadvantages of each; and also, if possible, the results obtained by each, in any trials that may have been made, and any particulars relative to the cost of erection, motive-power, &c.?—E. G. S.

WEST WHEAL KITTY.—I observe a great improvement is reported in this mine, and I should feel much obliged if any of your readers would inform me to what extent this property has been already opened, what produce it has yielded, and what are its present position and prospects?—ISQUITHEN.

PRINCE OF WALES.—As many of your readers have an idea that the advertisement respecting the Prince of Wales, and signed "A Cautious Man," was sent to the Journal by me, I hope you will allow me a few lines to state that your original "Cautious Man" is not the author of it.—W. H. HALSE.

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, AUGUST 4, 1866.

Notwithstanding the dearth of money, and the peculiar position in which all financial matters are placed by the perseverance of the Bank of England to maintain a 10 per cent. rate for discount, the shipping trade of the country continues to expand itself most marvellously, and if this result be in the face of such adverse circumstances, it seems difficult to calculate what would be the extent of our export business if money were cheap and discounts easy. The Board of Trade returns show that the exports of the United Kingdom for the six months ending June 30 amounted in value to 92,857,830l., whereas for the same period of last year the total was 74,128,633l., giving an excess of 18,729,197l. for the half-year of 1866 over 1865, and is equivalent to an increase of 37,458,394l. for the twelve months, although for the month of June, by itself, the total was only 14,630,120l., or 1,403,058l. in advance of June, 1865, and equal to 16,836,696l. for the year.

In articles identified specially with the mining industry of the country there is a decrease under only three heads, and an increase in all the rest; the aggregate value of these exports being no less than 17,380,245l., against 15,461,918l. for the first six months of last year, and giving a balance excess of 1,918,327l. The decrease consists of machinery to the extent of 543,357l.; copper, 192,378l.; and tin unwrought, 16,273l.; whereas the increase is thus made up:—Iron, 1,569,193l.; coals and culm, 361,758l.; tin-plates, 230,314l.; steel, 224,773l.; hardware and cutlery, 142,740l.; lead, 115,533l.; zinc, 20,226l.; and brass, 5798l. If the remaining six months of 1866 keeps pace with the first half, the total exports of the kingdom will approach the gigantic sum of 185,000,000l., and of this about 35,000,000l. will be represented by mining and its results, than which nothing can be better evidence of the importance which attaches itself to this branch of trade, and the success which attends mining when legitimately pursued.

The dealings in the precious metals have been greatly in favour of this country. The exports for the six months amounted to 11,122,561l., while the imports were 16,603,137l., giving a balance to our credit of 5,480,576l. The excess of exports over imports, in respect to eight countries, was 7,331,447l., while the excess of imports over exports, in respect of eleven countries, was 12,812,023l. The imports consisted of 12,427,886l. in gold and 1,175,251l. in silver. The exports were 7,355,854l. in gold, and 3,766,707l. in silver, so that our balance credit for the six months was 5,072,032l. in gold, and 408,544l. in silver.

THE SELECT COMMITTEE ON MINES.

We publish in the Journal of to-day the conclusion of the evidence taken by the Select Committee of the House of Commons, appointed to enquire into and report upon certain allegations contained in a petition to Parliament, signed by nearly 20,000 working miners. The Committee have had 29 sittings, and have sat, on an average, nearly four hours per day. The result of their diligence has been the collection of a vast amount of evidence, which will form a bulky Blue Book, to be presented to the House before its rising. No fewer than 14,519 questions were put to the witnesses, and answered, in many cases, with an abundance of qualification and amplification; besides which, a very considerable number of documents have been put in, and ordered to be printed in an Appendix. The several members of the Committee have, doubtless, made up their minds, as the evidence has progressed from day to day, upon the several points at issue; and many of them, by their questions, have indicated what their conclusions are. It is also abundantly manifest that a very considerable difference of opinion exists; and no one is surprised that they have deferred their report to the House until the next session.

Without anticipating what that report will be, we propose in the Journal of next week to give a brief *resumé* of the bearing of the evidence upon the points at issue.

The arrangement and production of the evidence given on the part of the owners and managers were directed by Mr. DAY, secretary, and Mr. MASKALL PEACE, solicitor to the Miners' Association of Great Britain, who watched the evidence with the greatest care, and continually supplied the members of the Committee with questions on points respecting which their own knowledge did not appear sufficient to enable them to elicit the truth. Mr. McDONALD and Mr. NORMANSELL, who represented the workmen's Unions, were also present at each sitting, and were frequently allowed, by favour of the Chairman, to put in counter-statements to those of witnesses brought forward on the part of the masters; and it must be admitted they performed their duty to their clients with fidelity, intelligence, and zeal.

IMPROVED MOTIVE-POWER FROM GAS.—A very compact gas engine, the invention of Mr. PIERRE HUGON, of Paris, has just been set to work in London, for which several important advantages are claimed. The fact of the engine being protected by 12 patents, dating from 1858 onwards, is itself a guarantee that the inventor has been regardless of labour in perfecting it. A series of careful experiments has been conducted by Prof. Cazin, of the Versailles Lyceum, and the results obtained were highly satisfactory. The cylinder of the new machine is vertical, and a rod jointed to the shaft works a bellows, which draws the gas from the ordinary supply pipes, and forces it into the cylinder, where it is mixed with the necessary quantity of air to form an explosive compound, a minute quantity of water being supplied within the cylinder to ensure the necessary degree of moisture to prevent the hardening of the oil used for lubrication. The ignition of the explosive mixture takes place alternately above and below the piston, and is effected by an ingenious form of slide-valve carrying suitable gas-burners, which are lighted at each half-stroke by an exterior burner continuously kept burning. The cylinder is surrounded by a water-jacket, through which cold water is continually circulated. The explosive mixture used consists of about one part gas to nine parts air, and the average of the two experimental tests, each of one hour duration, made by Prof. Cazin on Dec. 6 and Dec. 8 respectively, showed the gas used in the cylinder to be 171 cubic feet; number of revolutions of shaft, 3313; weight on break, 15 kilos.; length of break-lever, 2 metres; diameter of cylinder, 13 inches nearly; stroke, 11 8-10ths inches. The power of the machine was found to be 2½ horse power nearly, and the gas used per horse power per hour 74 cubic feet. It is claimed that Mr. Hugon's is the only gas-engine that regularly and uninterruptedly works up to its nominal power, and it is maintained that the ignition

of the explosive mixture by a gas-jet instead of by electricity is decidedly advantageous, inasmuch as electricity is a force too complicated and too delicate for the every-day use of a manufactory or workshop. Gas-engines are, undoubtedly, the best motors extant for obtaining small power—from ½ to 3 horse—without the necessity of the continual outlay which the use of steam would entail. No expense whatever is incurred whilst the machine is idle, and the full power is available at any moment by simply lighting the gas, whilst its stoppage is effected with equal facility by turning it out.

TREATING TIN ORES AND TIN SMELTERS' SLAGS—IMPORTANT TO TIN MINERS.—It frequently happens in the treatment of the tin ores produced in Devon and Cornwall that loss is incurred by the miners, not because the ore does not contain sufficient tin to render it valuable, but because that tin is associated with other metals and substances, the separation of which is extremely difficult and costly. An invention, however, has just been patented by Mr. M. Henry, of Fleet-street, by the application of which all descriptions of tin ore can be treated with equal facility, and all the products contained can be extracted at a mere nominal cost, and in a readily marketable form. The inventor is Mr. J. J. Margais, of Paris, who claims that by a simple process, which he has tested on a large scale, he can extract the whole of the metals contained in tin ores, or the scoria from tin-smelting works, at an enormous profit. Wolfram, and the other impurities usually so extremely annoying to the tin miner, becomes saleable articles, and their presence occasions no inconvenience whatever, whilst the invention has the additional advantage that, when applied to the ores of tin, the greater part of the dressing processes may be dispensed with, the treatment directly following the stamping. Mr. Margais intends to offer to treat the vast heaps of scoria now lying about the smelting-works upon condition of receiving a proportion of the profits realised, and as the material which he proposes to treat is at present absolutely worthless to them, it will certainly be to the interest alike of the miners and of the smelters to offer every facility for the introduction of the process. As soon as the patent is completed, a detailed description of the invention will be published.

COPPER MINES, AND THE COPPER TRADE.—Although at present the price of copper is lower than it has been for many years, it is beyond question that by more careful manipulation of the ores copper mining may still be made extremely profitable. It has too long been the custom of mine adventurers, especially in Cornwall and Devonshire, to neglect all ores that required any other treatment than mere crushing and washing, and hence enormous masses of ore have been permitted to accumulate as refuse, which, if now treated, would enable many mines to pass over the present period of depression without making calls upon their shareholders, and without restricting the proper exploratory works for opening out the mine. Certainly nothing is better calculated to assist the miners until the price of copper rises (and considering that the last published Board of Trade returns show a most satisfactory increase in the exports of that metal, as compared with the corresponding month of last year, there is good evidence that the existing depression is temporary only) than the extraction of the metal from the ores now considered worthless. The large profits attending this branch of the miner's business is evident, from the extraordinary success which has attended the operations of the Alderley Edge Mining Company, which, although the average produce of their ore was scarcely 1½ per cent., declared a dividend of 40s. per share, on Tuesday, and are altogether in a most prosperous condition. The company has been in operation but a few years, and the ore raised is of a produce which in most of the mines of Cornwall and Devon would speedily find its way to the attle heap; yet what has been the result of working it? The entire subscribed capital of the company is 14,987l., and, on the other side of the account, there has been paid to shareholders as dividends 14,120l., and the company has at present some 2500l. cash at bankers, and available assets (exclusive of the value of the mine, plant, and machinery, which are not taken into account) to the extent of more than 3000l. Now, what can be done at Alderley Edge can be done elsewhere, and if an additional 3000l. could at present be placed to the credit of each of the copper mines in the kingdom, the change which would be effected in the aspect of the copper mining interest would be enormous. It is much to be hoped that copper ores of low produce will no longer be considered valueless.

BRASS.—The quantity of brass exported from the United Kingdom has followed the course taken by British commerce generally of late years; that is, it has largely increased. In 1851 the brass of all descriptions sent abroad amounted to 20,379 cwt.; in 1852, to 17,177 cwt.; in 1853, to 17,248 cwt.; in 1854, to 18,888 cwt.; in 1855, to 16,822 cwt.; in 1856, to 19,198 cwt.; in 1857, to 21,960 cwt.; in 1858, to 26,629 cwt.; in 1859, to 25,654 cwt.; in 1860, to 36,662 cwt.; in 1861, to 30,435 cwt.; in 1862, to 38,210 cwt.; in 1863, to 47,906 cwt.; in 1864 to 42,673 cwt.; and in 1865, to 44,110 cwt. The exports to May 31 this year were 17,202 cwt., as compared with 16,903 cwt. in the corresponding period of 1865, and 14,723 cwt. in the corresponding period of 1864. The value of the brass exported in 1851 was 103,225l.; in 1852, 92,128l.; in 1853, 104,906l.; in 1854, 118,075l.; in 1855, 106,784l.; in 1856, 121,206l.; in 1857, 143,953l.; in 1858, 155,511l.; in 1859, 149,030l.; in 1860, 211,692l.; in 1861, 171,050l.; in 1862, 204,784l.; in 1863, 241,895l.; in 1864, 234,013l.; in 1865, 232,222l.; and to May 31 this year, 99,074l. (as compared with 89,609l. to the corresponding date of 1865, and 82,259l. to the corresponding date of 1864).

TEN YEARS' COAL RETURNS.—The quantity of coal raised in the United Kingdom was—

United Kingdom was—					
In 1854	.....Tons	60,661,401	In 1860	.....Tons	80,042,698
1855	.....	61,453,079	1861	.....	83,635,214
1856	.....	66,645,450	1862	.....	81,638,338
1857	.....	65,394,707	1863	.....	86,292,215
1858	.....	65,008,649	1864	.....	92,789,873
1859	.....	71,979,765			

It will be observed that up to 1858 the quantity of coal extracted annually made but little progress, while since that year it has enormously increased. The value of the coal extracted was—

In 1854	£16,165,350	In 1860	£20,010,514
1855	16,113,267	1861	20,908,803
1856	16,663,862	1862	20,409,584
1857	16,348,676	1863	21,573,053
1858	18,252,162	1864	23,197,968
1859	17,994,941		

Comparing 1864 with 1854, the coal production of the United Kingdom increased to the extent of 43 per cent. in the ten years. The value also increased in about the same proportion, which indicates that prices varied but slightly.

NEGLECT TO KEEP BORE-HOLES IN ADVANCE.—Information arising out of the accident at Roughbank Colliery, near Rochdale, were laid by Mr. Joseph Dickinson, the Government Inspector for the district, against both the underlooker and the managing proprietor. The underlooker admitted that Messrs. Stott had provided the necessary implements for making the bore-holes. A collar was told to put forward the holes, but it being about the time for leaving work he left, promising to do it the next morning. It was supposed they were at least 40 yards from the old workings. The work was neglected for two or three days, when an inundation occurred, by which two men lost their lives. The underlooker, Edmund Lord, pleaded guilty, and was fined 20s. and costs. Mr. William Stott was then charged with neglect of the general rule requiring that "sufficient bore-holes shall be kept in advance, and if necessary, on both sides, to prevent inundations in every old working approaching a place likely to contain a dangerous accumulation of water." Upon being called upon Mr. Stott said he did not plead guilty of negligence, it being a question whether the law required him personally to inspect; it is a point whether when a master gives orders, and his servants neglect to carry them out, he could be held responsible. Mr. Dickinson said that on June 25 he visited the colliery, and found that the level they were driving had been driven through within about a foot of the old workings, and that at that point the pressure of water burst the piece of coal away, and so liberated the water from the old workings; he was shown the place where the men had been working. From observations which he made there it was perfectly clear that no boring had been going on, and it was admitted by the underlooker, Lord, that this was the case. A collar corroborated the statement that no bore-holes were made at the point where the men were killed.—Mr. Stott, in defence, said he believed that on June 23 there were no bore-holes in advance at the place where the accident occurred. The men engaged, however, were strictly told to adopt this precaution, and up to a certain time proper bore-holes, according to the reports of the manager to him, were made. Tools were provided for the purpose of making the bore-holes, and, as it was sworn at the inquest, the man Clegg and his son, in whom the fatality happened, were cautioned to make the holes sufficiently in advance on descending the pit. Nevertheless he (Mr. Stott) had no doubt whatever those bore-holes were not made. Pointing out the difference between the general rule and the special rule, the former of which required the owner to

that the bore-holes were kept sufficiently in advance, while the latter delegated this duty to the underlooker or fireman, Mr. Stott again said that he could not plead guilty to the charge of negligence.—The very mitigated penalty of 20s. and costs was imposed.

THE SELECT COMMITTEE ON MINES.

HOUSE OF COMMONS, JULY 19.

Present: Mr. NEATE (in the chair), General DUNNE, Professor FAWCETT, Mr. GREENALL, Mr. KINNAIRD, and Mr. LIDDELL.

Mr. THOS. WYNNE, Inspector of North Staffordshire, Shropshire, and Cheshire, said that he visited collieries (but not as a rule) without information. Had been an Inspector nearly 15 years, and there were, perhaps, 30 or 40 out of the 300 collieries in his district which he had never visited. There had been no accident and no complaint in them.

By the CHAIRMAN: I inspect when I think it likely danger may exist. For instance, I go very often to the deep pit at Dukinfield, because I am very much dissatisfied with the management. I have been down there 20 times. I should think I do not consider there is efficient management there. I am speaking of the pit where the recent accident occurred, but of the Astley pit. It is of unusual depth—686 yards. I was induced to go there before I knew anything special about it, on account of its great depth. Collieries of unusual depth require more than usual precautions. I think myself able to discharge all the duties of my office, as far as my ideas of those duties go. If I went further, I should be taking upon myself a responsibility that does not belong to me. I do, however, think that more frequent inspection would tend to better management; although there would be a danger, on the other hand, of the proprietors looking rather to the visits of the Inspector than their own good management. I mean, that if I made no complaints they would assume that everything was right. I was present at the inquest arising from the late Dukinfield accident. I had not visited that pit for two years. When I was there they had not very long commenced opening it, and at present there is no large extent opened. It is a very small colliery even now. I went over every part of it at the time of the inquest. There was no defect that was likely to have been prevented if I had been there a short time before. I do not think any inspection on my part would have prevented that accident, because it arose from what it never could be supposed anyone could do. It arose from gross neglect on the part of the management. The mischief was in some workings that had been opened about three years before, and had been left standing; workings I should not have thought of visiting, if I had gone down the pit the day before the accident.

Mr. LIDDELL: Were they abandoned workings?—No; they were driven out; but there were no means of getting the coal away. The dip is about 24 inches in a yard, and the pit not having been sunk as it ought to have been, they were 200 yards down below the level of the bottom of the pit.

The CHAIRMAN: Why should you not have visited these disused workings?—Because there was no reason to infer danger; they were out of the course of all the workings that had been going on for two years at least. Gas was not likely to accumulate there. If proper management had gone on, the air being sent round.

No one would have supposed but what that place was ventilated. It is impossible to find time to visit disused workings, and in point of fact it would be impossible from other causes. We go to the entrance of disused workings, and see that plenty of air is going through; but if that air were not properly applied it could not do its work. There may be old corners in disused workings through which the air does not pass, and that was exactly the case in this instance. Without going through, I should never have supposed for one moment that place was left full of gas.

By Prof. FAWCETT: If I had visited the mine it is just possible I might have thought the new workings to be in dangerous proximity to the old ones, but the chances are that I should not have done so. The management of these pits was bad. No mine that ever I have visited has been in so bad a state.

Prof. FAWCETT: You said you made your first inspection when the mine was just begun, and did not make another till the accident happened; if you had visited the mine during that time should you not have discovered that the management was bad?—I should.

Prof. FAWCETT: Without alluding to the particular circumstances which produced the explosion, if the mine had been more frequently inspected the general bad management would have been discovered, and probably the whole would have been improved?—I do not find the proprietors of mines are very much inclined to alter their management upon my representation. I have now four of the largest in my district which are managed by totally incompetent men, and all my representations seem to have no effect upon them.

Prof. FAWCETT: Did you represent to the manager of the deep pit at Dukinfield that it was badly managed?—I have done so; and I have written to the proprietor, to tell him I hold him personally responsible for what may happen.

Prof. FAWCETT: Have your recommendations been attended to?—They were not.

Prof. FAWCETT: Have you not power under the Act to see that your recommendations are attended to?—The only power that we have is to give owners notice that danger is to be apprehended, and they have the power of going to arbitration. I intend to bring this case to arbitration, if nothing is done. I wrote on June 23, and received an answer on the 28th, but it was unsatisfactory. I had visited the mine eight or nine months before I wrote, and it was then satisfactory, but the manager was leaving the colliery, and I could get nothing satisfactory from him. The owner is now the manager. It is a very heavy responsibility for a coalowner to incur, for an Inspector to give him notice that he is held responsible for anything that may happen.

The CHAIRMAN: Do you conceive that it is part of the duty of an Inspector to report to the owner that his management is incompetent?—No, but it is part of the duty of the Inspector to report to the manager, and he has not the power to alter the management. I have the knowledge how to alter it, then I think it is the duty of the Inspector to let the proprietor know. I do not think I have ever gone so far as to report to an owner that his management was an incompetent man, but I have reported that the management was defective. I will read a copy of a letter I sent to illustrate my practice. "I think it my duty to call your attention to the responsible management of the Colliery to the unsatisfactory state of the ventilation in the pit. According to the returns of your own underlooker there does not appear to be more than 27 cubic feet of air per minute passing through the whole of the workings, which is not much more than half of what is required for the health of the men and the safety of the mine. I found several places in the pit in a very unsatisfactory state, and the colliery generally clearly shows the want of that supervision which a superior colliery viewer can alone impart to it. I shall be glad to have an acknowledgment to this letter, as I think it but right that the responsibility should rest with you and not with me." The answer I got to that letter was—"I beg to acknowledge the receipt of your letter, and in reply to endeavor to improve the ventilation of our pit as you suggest. I think an impartial enquiry should be made as to whom the merit is due of the complete absence of explosion in our pits for the last 20 or 30 years."

In answer to that I wrote—"It is not for me to go into an enquiry as to which of your many managers during the last 20 years the merit is due of preventing explosions in your colliery; but it is my duty to point out to you as its responsible manager that the ventilation is now totally inadequate to the requirements of such a mine, and tends to endanger the health and the lives of persons working therein." I am afraid no improvement will be produced, as that mine is, in fact, managed by an underlooker. I have a promise of improved ventilation, and I shall keep my eye on that mine. If nothing is done I shall employ all the powers the Act confers to compel a more satisfactory management.

By Mr. LIDDELL: I think the law of compensation as to mining accidents unsatisfactory. Neither judges, counsel, nor jury seem to understand a mining question when it comes before them as to the cause of death. I do not suggest a special court of law for trying mining questions; but I should recommend that for owner's injuries there should be a medium course between verdicts of accidental deaths and manslaughter, which they could award a fine not exceeding £50, (with a power of appeal perhaps), I think that would have a very good effect, and I think it would work well.

The CHAIRMAN: You think that many accidents happen for which under the present law there is no adequate remedy, and for which compensation ought to be given?—I do.

Mr. LIDDELL: Do you think that the juries as at present composed are men to whom the power of assigning damages should be entrusted?—Unless in the case of serious accidents there is not that care bestowed which there would be under those circumstances. I have seen the juries composed of the class below shopkeepers. It is now inferred that there will be no important consequences attending the verdict, and therefore it does not matter so much who is on the jury. As far as my experience goes practical miners make the very worst juries; they are so very much prejudiced. The police, however, always take care to summon a good jury if it is a serious accident. They make a point of that, and more pains are taken to get intelligent men upon it.

By Mr. GREENALL: I would not go beyond £50, even in the case of death.

Mr. JAMES PHILIP BAKER, Government Inspector of Mines for South Staffordshire and Worcestershire, said—I have held my present office nearly six years, and I think I am quite equal to the duty of inspecting that district as I think the Act requires it to be done. I do not think that for such an inspection as is contemplated by the Act any more Inspectors are required.

The CHAIRMAN: Do you think it would be desirable to extend the duties of the Inspectors?—That would depend entirely upon the question how far inspection ought to reach, whether it ought to be a periodical inspection of every pit, or some other kind of inspection. I hardly think that a more perfect inspection would tend to prevent accidents; for I am rather inclined to believe that in many cases the managers would become more lax in their discipline if there were more inspections, and that rather than remedy any evil or defect they would hide it out, and wait the arrival of the Inspector.

The CHAIRMAN: Must not the inspections be very frequent indeed before it could lessen the responsibility of the owners; would a visit once in six months remove the sense of responsibility from the managers?—It would tend that way. If an owner knew that the Inspector could come on a certain day, or at the end of six months, he would be better prepared for the visit than in the interval. As it is, the visits of Inspectors produce improvements in the management of the mines. I have about 540 collieries in my district, and during the six years I have been Inspector I do not think there is any colliery of any duration which I have not inspected, either above or below ground. I go without any special reason; my practice is to go to a colliery when I have leisure, and to inspect it, either above or below ground.

The CHAIRMAN: What do you mean by inspecting above ground?—The machinery and colliery plant, which is a very important matter in my district. I think my inspection has tended to lessen the accidents from the breaking of chains. About the year 1850 the loss of life in coal mines alone was about 200 per annum. For the 10 years subsequently the annual average was reduced to 162, while for the last five years it was only 113. The number of lives lost in my district last year was 91; and there never was a time when so much coal was raised, or so many persons employed. I attribute this decrease to better arrangements both above and below, and to the Inspectors to some extent. Both owners and managers are more careful now than they were before the Inspection Act passed.

By Prof. FAWCETT: I suppose that I have not been down more than half the pits in my district. In the case of many of them I knew nothing of the manage-

ment from actual observation. In some collieries we have a large number of pits. In some that do not comprise more than 100 acres there are as many as 50 shafts. It is a fact that in regard to a considerable number of the collieries I have not been able to go underground, and see their workings. If there had been another Inspector, who could have taken a portion of my district, the number of collieries which have not been visited underground would necessarily be diminished. They might have been better known, but it is a question whether they would have been better managed. In cases where defects are really existing more frequent inspection would, probably, lead to better management.

By Mr. LIDDELL: We know pretty well, by the character of the owners, and that of the persons they employ, whether a colliery is likely to be well or ill managed; and I do not think it necessary or desirable to inspect well-managed collieries to the same extent as those which are not so well managed. My practice, however, is this: I go and inspect all the collieries in my power when I have any leisure, and when there is any need. I should not refrain from going down any particular pit, however well the manager might be up to his duties, if I were in the district, and had leisure. But if there was a particular colliery in which I considered the management defective I should continue to visit it until I got things put straight. I consider it to be part of my duty in such cases to continue to visit the colliery, and never let the owners or managers alone until they had carried out some improved system of operation. If in a good pit had management crept in I should be sure to get an inkling of the change for the worse. I occasionally receive anonymous letters, and I always either go at once, or if I cannot I send word to the owner. Of course, I do not tell him how I obtain the information—I should never think of doing that—but I say such and such a circumstance has come to my knowledge, and I request that the matter may be put right. Sometimes the information is signed by the writer, but I never let it be known from whom I received information. I do not like anonymous letters. They travel very rapidly, and have had many needless journeys through them, but that does not prevent me from paying attention to them when I do receive them. Many of the viewers, and some of the owners are uneducated men; but it is preferable—and particularly in the larger collieries—to have educated viewers. It enables him to enforce better discipline.

By Mr. GREENALL: The great source of fatalities in my district is fall of roof and shaft accidents. Those from falls have greatly diminished, but those from shaft accidents have not decreased in proportion. Explosions average about eight or nine per annum. It is foolish economy to employ an inferior management.

By Prof. FAWCETT: It is part of my duty to see the educational provisions of the Act attended to, and it requires a large proportion of my inspection. The boys as a rule in my district are not allowed to work under the age of 12 unless they can read and write, and when the law first came into operation many boys were dismissed. I regret to say that there is no useful advantage taken of the clauses by the workmen to send their boys to school, as there is a large demand for juvenile labour in other trades. With us the Act has done little good in this respect. The restriction ought to be binding on all trades to be of any real use.

By Mr. LIDDELL: I have not observed in my district on my part of the proprietors to employ inefficient men as viewers. I may have seen an instance or two where I should have liked to see a more experienced person in charge, but that is not general. I am not quite satisfied with the class of persons entrusted with the management of mines in my district, but I do not think owners have a desire to put in inferior men. I am not satisfied, because I do not find them all of equal ability. Skilled viewers, such as I should like to see, are not to be had in all cases. Lack of supply is one cause; but in my district there are a large number of small collieries, where a man may do very well who would not be capable of managing a large or a difficult mine. I believe accidents are fewer in proportion in the small mines than in the large.

By the CHAIRMAN: The average of safety is greatest in small mines, which, as a rule, are not so deep as the large mines.

Mr. FAWCETT: And that is the reason why there are fewer accidents in them?—When you have got a large colliery you have more to depend upon in regard to vigilance and care, but when you have a mine of small extent that amount of care is not requisite, because there is less chance of an accident than in a large mine. The witnesses then withdrew, and the CHAIRMAN announced that the Committee did not purpose to take any further evidence. What they had taken would be presented to the House at once, but the Committee would not make their report until the next session of Parliament.—The proceedings then terminated.

FOREIGN MINING AND METALLURGY.

We recently announced a tendency to improvement in the Belgian siderurgical markets; this tendency is considered to have since made a sensible progress. The hope of an early peace, which appears assured, has brought back confidence, and rolled irons can now be quoted at 67 1/2s. per ton taken at the works. Some orders of a certain importance have been received this week in the Charleroi basin on American account; some of these affairs are attributed to the crisis prevailing in England. The Belgian market is not likely to experience the strike difficulties with which England has to contend; at any rate, not until a marked revival is witnessed in affairs; and the Belgian foremasters are, consequently, anticipating further orders from America, which does not feel the effects of the war from which Europe is at present suffering. It is right to add that some Belgian houses now have branches in the United States. The tax on foreign iron has been reduced, and the navigation of the Scheldt is now open to the new outlet which Belgium has obtained across the Atlantic. Pig-iron to give way, especially as regards inferior qualities, which are quoted at 34 1/2s. per ton. The position of the collieries in the basin of Charleroi and the Centre has experienced little or no change, prices remaining the same. Deliveries by railway continue to be made with great activity in the direction of France, and stocks of little concern are now being sent to-day (Saturday) at Charleroi. In the Mons basin affairs continue to sustain themselves on favourable terms, and, as the supply of labour is limited, there is no probability that stocks will accumulate as they have done during the dead season of former years. Prices have experienced no change, except as regards fine coal, which is in great demand. In the Liege basin the situation continues less favourable, and although working operations are still actively prosecuted, stocks begin to form themselves; prices are, in consequence, less firm in this district. The Thy-Chateau (Belgium) and Forgemastries will meet to-day (Saturday) at Charleroi. The Marché and Couillet Company will meet Aug. 9, at Brussels. The Zone Forges Company will meet the same day, at Zone, near Marchienne. The last adjudication for plant required for the Belgian State Mines presented scarcely any features of general public interest.

The Stolberg and Westphalian Zinc and Lead Mines and Foundries Company obtained in 1865, in the neighbourhood of Stolberg, two new concessions of iron minerals, named respectively Hauset and Leien-gammer. Notwithstanding a want of workmen, the profits realised by the company's Stolberg Zinc Works, in 1865, were of a satisfactory character. The Stolberg Lead Works continued to increase their production in 1865, notwithstanding the reduction in the deliveries from the Common Mines. The fabrication comprised 9638 tons of merchants' lead, against 9380 tons in 1864; and 2448 tons of silver, against 2308 tons in 1864. The sale was active last year, and as with zinc, so with lead, the company was enabled to sell beyond its total production part of the stock of the preceding year. The Ramsbeck Mines occupied during 1865, 794 miners and 308 labourers, or 22 miners and 129 labourers less than in 1864. The important reduction in the number of labourers which these figures indicate arose from the further substitution of machinery for manual labour. The sum devoted by the company in 1865 to the working of its mines was 292,065 thalers, or 7325 thalers less than in 1864. At the Dornberg Mine a shaft has been sunk below the Ludwig Stollen gallery to metalliferous bearings supposed to be situated in that direction. On the eastern side some fine lead minerals have been discovered. At the Aurora Mine workings have been continued in the Andreas Stollen, Wilhelm Stollen, and Von der Heydt Stollen galleries, and below the last two pits have been sunk, in which veins of fine blende or white lead have been discovered. At the Alexander Mine the two eastern galleries have been continued with much success. The Ramsbeck Lead Foundry last year treated 8180 tons of lead minerals, which furnished 164 tons of merchants' lead, 350 tons of litharge, and 1073 tons of silver. These results, when compared with those attained in 1864, show an increase of 54 tons in the quantity of litharge produced, but a falling off of 422 tons in the production of lead, and of 361 ton in the production of silver. The return price of the lead was about 2 1/2 p. cent. above the return price of 1864. The Dortmund Zinc Works employed, in 1865, 226 workmen; it treated 13,656 tons of zinc minerals, which furnished 2316 tons of rough zinc. An ordinance of the Prussian Government, July 18, 1865, approved certain modifications introduced into the statutes of the company.

We turn to France. In the basin of the Loire the forges have advanced their terms 8s. per ton, as regards merchants' iron and sheets. The committee of French foremasters recently appointed a committee to establish a classified tariff for plates. A proposal emanating from Cressot has been taken as the basis of this work, and the committee, after having come to an understanding with all the foremasters, has just published a tariff, which is expected to prove of great utility, as well to purchasers as to sellers. The new tariff has been adopted by most of the producing establishments, and its immediate application has been decided on. The salient principle of the new tariff is, that it proposes as a basis of operations that all plates shall be sold at the prices applicable to the most easily-selected samples or specimens, the rule adopted with regard to merchants' irons being thus followed. For plates of commerce and plates for pipes, which usually have sold by weight, and for a small number of dimensions adopted by custom, the classification is regulated according to the weight of the sheets referring to each of those dimensions. For construction plates the classification is made according to the dimensions of each sheet. At St. Dizier, charcoal-made pig is quoted by continuation at 47 1/2s. per ton; half-coke made, 37 1/2s.; coke-made, 35 to 37 1/2s.; rolled iron, first-class, 84 1/2s. to 91 1/2s.; coke-made, 84 1/2s.; first-class sheets, 94 1/2s. to 107 1/2s.; special irons, 84 1/2s. to 91 1/2s.; machine No. 20, charcoal-made, 94 1/2s.; mixed ditto, 94 1/2s.; coke-made, 84 1/2s.; hammered iron, 104 1/2s. to 107 1/2s., and ordinary axes, 107 1/2s. to 107 1/2s. per ton. A communication from the syndicate of Franche-Comté foremasters says:—"The position of affairs among the group of Franche-Comté foremasters viewed satisfactorily during the last few months of 1865. The first quarter of 1866 confirmed this state of affairs, and the iron plates, &c., of the Comté district—but especially the plates—were more easily run off than has been the case for some years past. Some establishments even advanced their tariffs 2 or 3 p. cent.—in a word, the fall was stopped, and sale prices appeared likely to rise in a little while to a point which would leave some profitable results for the capital engaged. The political and financial events which have occurred during the last two or three months have naturally checked this revival in business, and the demand has become less active, especially for certain special plates, which find their principal outlet on the Paris market. At the same time it may be stated that at present the general current of affairs has continued good. Fine forged iron continues to be quoted at 167 1/2s. to 174 1/2s. per ton; fine rolled iron, 174 1/2s. to 181 1/2s. per ton, according to specimens; and superior fine plates, 234 1/2s. to 241 1/2s. per ton, according to a special classification in the Comté group. At the last quarterly meeting of the Comté foremasters, at Besançon, first-made pig was maintained at 67 1/2s. 7d. per ton, delivered at the stations nearest to the producing blast-furnaces; this price might easily have been advanced, as there was a good demand and little stock with which to meet it. Since then this situation has been maintained, and, according to information collected recently, pig is taken off as fast as it is produced. The next meeting of the Comté foremasters will take place at Besançon towards the close of August, and it may be anticipated, unless a greater

perturbation arises in affairs, that the price of May will be maintained for pig. There may even be an advance in prices, as it is no longer doubtful that many establishments begin to recognise the fact that the superior coke-made pig, which some time since displayed a tendency to substitute itself more and more every day for the pig of the Comté district, cannot, although very good for certain purposes, be applied in a general manner to the whole fabrication of the Comté district. On the whole, the position of the Comté group is better than it has been for some years, and it would easily acquire more vigour and vitality if affairs generally regained a better tone, and presented more activity." Meetings are announced as follows:—Mouzaia Mines Company, Aug. 9, at Paris; St. Etloi Collieries and Railway Company, Aug. 10, at Paris; Vienne Metallurgical Company, Aug. 11, at Paris; Siraunt Collieries Company, Aug. 13, at Paris; Falmes Collieries Company, Aug. 14, at Courcelles; and Longue-Perrand Colliery Company, Sept. 6, at Elouges. The recent opening of additional sections has carried the length of line worked by the Paris, Lyons and Mediterranean Railway Company to 2130 1/2 miles.

At Paris copper has fallen, in consequence of the reduction of prices in England, but the demand has not revived in consequence; English is quoted at 82 1/2, rough Chilean at 78 1/2, and Croco mineral at 81 1/2 per ton. On the Havre market Chilean has continued to provoke some affairs, purchasers coming forward rather sparingly at current rates; sales have been noted, with delivery at the close of August, at 78 1/2, per ton. Paris conditions, and for the end of October at 74 to 80 1/2. In disposable transactions are more restricted, and have been effected at an average of 78 1/2 per ton. The article has continued quiet on the German places; at Hamburg there have been few affairs, and prices have been nominal. At Cologne the demand has been very limited, and at Berlin the article has been neglected, the purchases made for consumption being very limited, at Stettin some small purchases have been made. The affairs concluded in the Rotterdam market have realised 46 1/2 s. The receipt of intelligence that Austria has accepted the preliminaries of peace proposed by France has induced holders to maintain prices firmly, and it would now be difficult to buy for less than 47 1/2 s. Tin has been a little more in favour on the Hamburg market, and to execute orders of any importance rather higher prices must be allowed. At Berlin affairs have remained without change, and have been quiet. The position of the Cologne market has remained the same, and prices have not varied. The Paris tin market has remained without business, and prices have been to some extent nominal; Banca has made 86 1/2, and English and Detroit 87, per ton. The stock of lead on the Hamburg market being limited, the article has maintained its value pretty well; at Berlin the rates previously indicated have been maintained. The Stettin market has been quiet; Cologne has been inactive, prices remaining without change. At Paris the article has been neglected, rough French making 20 1/2 s., and Spanish 20 1/2 s. per ton. At Hamburg there has been rather more demand for zinc, the low rates current having attracted the attention of speculators. The Breslau market has not been very active, nevertheless business has been a little firmer, upon the whole. At Paris transactions have been confined to the daily requirements of consumption. Rough Silesian is maintained at 22 1/2 s. per ton, but extensive transactions could be easily concluded at lower prices.

REPORT FROM NORTHUMBERLAND AND DURHAM.

AUGUST 2.—The opinions expressed in this letter last week have received strong confirmation by what has taken place at the Clarence Ironworks, on the Tees. The managing director, Mr. J. A. Bell, laid before the men, who have received notice of a reduction in their wages of 10 per cent., a detailed account of the past and present state of the Iron Trade in the North, and after the men had duly considered it, a meeting took place between the parties, and the result has been that the men have accepted the reduction, and, consequently, the works will go on without interruption, while the majority of their neighbours are standing in idleness. From what transpired at this meeting there can be no doubt that the price paid to the men will be again advanced when the iron trade revives. A meeting was also held at Jarrow on Tuesday, when the point in dispute was fully discussed between Mr. C. M. Palmer and the men, and although the immediate result can hardly be expected to be very important, yet ultimately it may lead to an agreement at those very extensive works, which would certainly lead to the abandonment of the strike generally in the district. Labourers and men of various grades are taking their departure for other districts and for other countries, the ironworkers themselves being in the meantime supported by the Unionists. It is feared by many that the Trades Unions will ultimately ruin both the capitalist and the ordinary labourer, as they hoard up money in good times, which enables them to ruin the capitalist in bad times. The stoppage of the extensive ironworks of Pili, Spencer, and Co., at Hartlepool, has added much to the gloom pervading the iron and other trades in the district; it is, however, expected that arrangements will shortly be made, and the works resumed. If this is not accomplished, and the concern has to be wound up in Chancery, the result will be most melancholy. The effect of numerous strikes in retarding the progress of the works, and the state of the money market, has brought about this unfortunate failure.

The Northern Mining Institute annual meeting is to be held to-day at Newcastle, when the election of the various officers and members of the council will be proceeded with, and on this occasion the lately-elected President, Mr. T. E. Forster, will deliver an inaugural address, which will, no doubt, prove highly interesting. The papers for discussion are, 1. Mr. A. Aspell's paper, "On a New Method of Indicating the Pressure and Amount of Fire-damp and Chokedamp in Coal and Iron Mines."—2. Mr. J. B. Simpson's paper, "On a Direct Acting Pumping-Engine."—3. Mr. J. Daglish's paper, "On a New Plan for a Water-Gauge."

Shipping on the Tyne and Wear is extremely dull, in common with most other trades; what coals are carried are chiefly by screw colliers. According to present appearances, indeed, the shipping trade appears to be destined to be carried on in future by steam-vessels, most of which recently built carry large cargoes, and as they make their voyages at greater speed than it is possible for sailing vessels to do, they can be worked comparatively cheaper, and they must, therefore, in the course of time expel sailing vessels from the trade.

REPORT FROM SCOTLAND.

GLASGOW, AUG. 1.—We much regret to announce the stoppage of two well-known firms in the iron trade this week, that of M'Ewen, Bryson, and Co., and Mr. David Law (sole partner of the extensively-known firm of Edlington and Sons), of the Phoenix Foundry here. At the date of our last report there were rumours of the probability of the suspension of these firms within a short time, but they were considered by many so substantial and deep rooted that they would weather the storm. They have, however, both succumbed, the one involving the other in the ruin. The firm of M'Ewen, Bryson, and Co., metal brokers, West George-street, are said to have liabilities to the extent of 350,000Z, and their books have been placed in the hands of Mr. J. W. Guild, accountant, St. Vincent-street. The result will not be known for a few days. The unfortunate suspension of Mr. David Law, sole representative of the old-established firm of Thomas Edlington and Sons, ironfounders and engineers, following so hard after that of M'Ewen, Bryson, and Co., has caused great sensation in the trade, and it even influenced the iron market. The estimated liabilities of this latter firm are set down at 230,000Z, and the assets are valued at 120,000Z. This stoppage seems to have been directly caused by the failure of the former, as Mr. Law is said to rank for 79,000Z, in the estate of M'Ewen, Bryson, and Co. A meeting of the creditors is called for Friday, when Messrs. Auld and Guild, accountants, will show from the books how matters stand.

These failures have had a depressing influence on the price of pig-iron during the week, and kept the tendency of prices upwards from advancing more than 6d. to 9d. a ton. The price during the week has been between 51s. and 51s. 9d., prompt cash, 3d. to 6d. more a few days hence. The shipments from all the Scotch ports for the week ending yesterday was 13,850 tons, same week last year 17,175 tons, which is a decrease of fully 3500 tons. This makes the total exports of the year 320,818 tons, which bears a decrease of 78,547 tons in our shipments up till date. To-day the market has been steady, 52s. cash paid for about 3000 tons, closing rather buyers than sellers at 52s. 3d. Shipping iron in good demand at 52s. for No. 3, 54s. for No. 1. There are no indications of any disposition on the part of the ironmasters to re-light their extinguished furnaces, the price of pigs being quite unremunerative. At Lurgan, in Ayrshire, the Messrs. Baird have built three fine new furnaces, in place of the three old ones, which had been out of blast for some years, and prospecting and boring, under the auspices of mining engineers, are going on all around that locality. We understand that excellent coal and ironstone have been found in Lady Boswell's property, adjoining, which will be wrought at a lordship rent. The ironmasters whose colliers are at work are sending in some of their coal to market, while they would rather stock it, if they could only get the sale coalmasters to agree to reduce their colliers' pay 1s. a-day, and put them on equal terms. At the malleable ironworks the proposed reduction of wages has not been acted on. At Dundyan the men are on strike, and the Union hands have been paid their alimony, and received instructions not to give in. In some of the departments of the malleable works not a wheel has been turned for several weeks, and great difficulty is experienced in keeping up from half to three-quarter time, as the effects of the strike in the shipbuilding trade, and the scarcity of orders, have not yet given this branch a fair start. The failure of Messrs. Edlington and Sons, perhaps the largest ironfounders in Britain, is telling on the ironfounding trade of the

town, but, of course, this will only be of a temporary nature, and of limited duration.

Coal is steady in price, but in rather sluggish demand, and the quality is bad—coal-heap, which has lain for, in some instances, 30 years, being brought into requisition owing to the scarcity of the article, and the continued determination of the colliers to refrain from working a full day's work or a full week's work, under the supposition that if they did either they would thereby lose part of their day's or week's pay. The high price of coal is beginning to tell upon some branches of our staple manufactures, and the enhanced cost to some firms is as high as from 30% to 100% per week. The price of coal will thus affect the price of other commodities; and it may ultimately attain to such importance as to materially affect our power to export certain articles, and thus directly interfere with the revenue of the country. The shipments for the week to date are 28,590 tons, and in the same week of last year they were 35,700 tons.

Two meetings of miners have been held since my last, and the result of their deliberations was that if the masters would agree to 6d. of reduction per day instead of 1s., they would offer no resistance, but if the 1s. was demanded it should be resisted. It is to be noted that in each district was to be a ballot for or to go out on strike, the men employed by the masters who took a prominent part in the reduction being the first to be drawn.

The Great Northern Mining Company of Ireland, principally owned by parties in and around this city, have yesterday paid a dividend of 10 per cent., and another similar dividend of 10 per cent. is expected to be declared in a short time, the ore being turned out in such quantity.

The great engineering work of throwing a railway bridge across the Solway Firth, between Annan and Zowness, Cumberland, is making considerable progress, and the works upon the Solway Junction Railway, of which it forms a part, and which is to shorten the route from West Cumberland to Scotland by railway about 20 miles, is also being constructed rapidly.

The report of the directors of the company for the past half-year states that a bill to authorise the extension of the line to Maryport having been thrown out in Parliament, they have made an amicable arrangement with the Maryport and Carlisle Company, securing to the Solway Junction Company the iron ore and other traffic to Scotland.

Several engineers are engaged surveying Caithness-shire, with the view of fixing on the route for a junction with the Sutherlandshire system.

At the Great Northern Mining Company of Ireland meeting, at Glasgow, on Tuesday, a dividend of 10 per cent. was declared to the shareholders, who are chiefly resident in and around Glasgow; and we are informed that so much ore is being raised from the mines that the directors will be able to declare a similar dividend on an early day. Mr. Colin H. Dunlop has been appointed to the office of secretary to the company.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

AUG. 2.—No change can be reported in the Iron Trade of this country. Recent failures have necessarily created anxiety, and tended still further to restrict transactions, and we must wait for some little time longer before we can hope for activity. It is satisfactory that the new banking company at Birmingham has been successfully launched, mainly on the basis of the former Birmingham Banking Company, being composed largely of its shareholders, who have purchased the premises, and who will thus be able to secure a good deal of the connection, and to make the best of the assets of the defunct company. It cannot but be that in winding-up the affairs of a bank which has failed from the inability of creditors to repay advances made to them that some collapses must result, but it may be hoped that none who have a bona fide prospect of repaying the advances made to them will be unduly pressed, and this is the utmost that can be done to mitigate the effects of such a collapse. The Midland Banking Company, which was formed mainly to take up the connection of the private bank of Sir Francis Goodrich, at Wolverhampton, held its half-yearly meeting on Friday, Mr. T. S. Richardson presiding. The report was very satisfactory. The net profits were 13,767*l.*, and the payment of a dividend at the rate of 6 per cent. left 2000*l.* to add to the reserve fund, 3487*l.* to be applied to the reduction of the preliminary expenses, and 6829*l.*—which included 3774*l.* for rebate of discount on bills not due—to be carried forward to profit and loss account. Mr. H. H. Fowler, who moved a vote of thanks to the directors, said that not a single shilling had been advanced to any director, which the general manager, Mr. Tomson, confirmed. The attendance at the meeting was numerous and highly respectable, and the general feeling one of confidence in the future prospects of the bank. The half-yearly meeting of the Railway Rolling Stock Company was held on Tuesday—Mr. J. Perks in the chair. The report was very favourable, and a dividend at the rate of 10 per cent. per annum was declared, and it was stated that the company had met with scarcely any appreciable loss during the half-year. The dividend of the Patent Shaft and Axle-Tree Company of Wednesbury, it is announced, will be at the rate of 15 per cent. per annum, with a large amount to carry forward. The directors of the Midland Wagon Company announce profits for the year amounting to 31,223*l.*, and recommend a dividend at the rate of 15 per cent., which will leave a large amount of profit to carry forward.

A terrible Boiler Explosion took place on Saturday at Mr. H. Williamson's Pinnock Colliery, near Tunstall, in North Staffordshire. The operations at the pit having been lately much extended, a very superior new engine, of 150-horse power, was fixed, and two new tubular boilers, 30 ft. long and 9 ft. in diameter, were made at the works to supply steam. They were constructed so as to be capable of bearing a pressure of from 50 to 60 lbs., but at the time of the accident only one was completed, and the engine was working with that alone, having begun on the previous Wednesday morning. The other boiler was fixed, but the fittings were not quite completed, and two men were at work inside it when the accident happened. On Saturday morning the night men had been raised and the day men lowered, the engine being under the charge of Stephen Chadwick. At half-past seven Mr. Josiah Dale, the engineer at the works, went into the engine house to see how the engine was working, and received a favourable report from Chadwick. He found that the indicator showed a pressure of 55 lbs. to the square inch, and the steam was blowing freely off at the valves. In half a second, however, the gauge had gone up to 36 lbs., and this attracted his attention and excited his surprise, as there had been found a difficulty previously in maintaining the pressure. In a moment or two the explosion occurred, the main part of the boiler, weighing about 12 tons, being carried through an embankment for 60 yards, and the other part, about 7 tons in weight, flew as far in the contrary direction. The destruction to the building was, of course, very great; but, still worse, Stephen Chadwick, who was standing at the fire-hole a moment before the explosion, was killed on the spot, and Abel Mayer was buried in the ruins, and died within an hour. Mr. Dale, the engineer, was injured, and a bricklayer, named Joseph Smith, very seriously, but they are recovering. The other boiler was unseated, and rolled over, and the men inside it hurt, though not very seriously. At an inquest opened on Monday Mr. Wynne, the Government Inspector of Mines, was present. The engineer, Josiah Dale, stated that the steam-gauge rose from 35 to 36 lbs. in less than half a second, just before the explosion. There was a buoy to show the height of the water, and a water-gauge, and, in addition, a whistle to indicate when the water was low, and the gauge showed the water to be 1½ in. above the height at which the whistle would blow. He said he could not account for the explosion or the sudden raising of the pressure, but Mr. Wynne suggested that it might be explained if the flues were not of water, to which the witness assented, though he thought it highly improbable this could be the case. The inquest was adjourned until to-morrow, and, at the suggestion of Mr. Wynne, the Coroner consented to ask Mr. Longridge, of Manchester, to examine the boiler and report as to the accident on that day.

A fortnight ago reference was made to a fatal colliery explosion at the Glee Colliery, Fenton, North Staffordshire, by which four persons lost their lives. The adjourned inquest was held on Tuesday, and Mr. Wynne, the district Inspector, was present. The evidence showed an extraordinary amount of recklessness on the part of Thomas Briggs, who was sinking a shaft, and had three men working under him. Mr. Kelsall, the underground bailiff, having had reason from Briggs own information to suspect the existence of gas in the shaft, gave positive orders to Briggs to work with lamps only. Briggs demurred, but Mr. Kelsall insisted, and told him he should not work there at all unless he used lamps, and he saw him again a few hours before the accident, and emphatically repeated the caution. On Tuesday night Briggs and two sinkers and a labourer went down the shaft, taking two lamps, but they worked with naked candles, and two of the men smoked their pipes. According to Briggs, they put out the candles twice, and removing the scaffold tried if there was any gas, but a labourer who was down said the candles never put out, and that he did not see the lamps lighted. Briggs went up to get a chain at a quarter to three, leaving word that as soon as they were ready for it they were to send the labourer for him, and they did so. Just as the two were about to descend a violent explosion occurred. The brakeman was knocked down the shaft, and he and two sinkers and a man in an air-way, who was blown to the other shaft, lost their lives. The jury returned a verdict of "Accidental Death," but severely censured Briggs, as they could not avoid doing.

The Dudley and Midland Geological Society visited Hednesford on Cannock Chase, on Tuesday week. Their attention was particularly attracted to the open works at the Hednesford Colliery, at which is worked the Gubbins ironstone measures (embedded in eolignaceous shale, which is said to contain 19 gallons to the ton), yielding 12 cwt. of capital ironstone to the square yard; and an exceedingly clear stratum of fire-clay of 8 ft., which is being made into white building bricks for the London market. The discovery of the extraction of oil from the coal shales of Staffordshire is of most remarkable import, not only as a valuable auxiliary to coal, but converting what had hitherto been looked upon as a worthless article into a valuable product. Various are the opinions as to the remote cause of oil in these shales—by some being placed to the account of the enormous quantities of the "mussel" tribe of shells existing in the then seas which covered the district; and by others to the richness of the carboniferous vegetation, or to the chemical processes still going on in the bowels of the earth. From the Hednesford Colliery open workings, the party next proceeded to the new trial sinking hole of Mr. McClean. Here it was found that the sinkers had just discovered, at a depth of 30 yards, Cannel coal of a highly

eolignaceous nature, 14 inches thick, and said to be equal to the celebrated Scotch Torbane Hill Cannel, with a yard of coal underneath, which will enable it to be worked with great facility and economy. It is intended to use the coal for the distillation of mineral oil or petroleum, in which it is rich. In colour, lightness, and close texture it approaches nearly to jet, of which it probably is an impure variety. The party also visited the "new workings" of the Cannock and Rugeley Colliery Company, who have sunk two shafts, 12 feet in diameter, for 200 yards in depth, and have discovered the celebrated Cannock Chase shallow and deep coals, together with several other good workable seams. The shallow coal measure is full 9 ft. 6 in. thick, and the deep coal 7 ft. thick, both being of excellent quality.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

AUG. 2.—There is no alteration to report in the state of trade in Derbyshire, and as regards both iron and coal business is much brisker than in almost any other part of the country. There being a good understanding between employers and employed, the result has been that whilst in most localities the men have had notice of a considerable reduction in their wages, in the large works in South Derbyshire no alteration has been made, or even offered. At Clay Cross and Staveley the men are for the most part fully employed, and as many new works are all but completed, the demand for labour is likely to increase in a larger ratio than the supply, more especially as house accommodation is by no means equal to the demand. Several of the new collieries, like the Devonshire Silkstone, are making provision for the employment of a considerable number of workmen, so that a large number of houses are being put up close to all the pits in the course of being opened out. In the neighbourhood of Sheffield matters remain in about the same state as previously noticed, and although trade is anything but good, yet the prospects are more encouraging than they have been. In view of the termination of the war on the Continent, and the complete deposition of the American Tariff Bill, the present state of anxiety will shortly be relieved, and there is no doubt that orders to a considerable extent will soon be put in hand. As it is, there is every appearance that the well-known makers of heavy iron-plates, not only from the home Government but for the Continent, will have a large influx of orders.

In South Yorkshire the business doing is comparatively small, considering the ability of makers to supply; still, as the large number of furnaces damped out in the Cleveland district must send some little trade to other localities, the probability is that the business will increase in those places where the men have not appeared in a hostile attitude towards their employers. The demand for both hard and soft coal in Yorkshire continues good, but by no means equal to what would be expected, so that several of our largest collieries have been obliged to stack. This the men are opposed to, and have preferred playing a day or two in preference to seeing a few thousand tons of coal put out to the pit hill. The reason, no doubt, is that with a large stock on hand the masters for a short time are independent of the men, which the latter are quite aware of, and know that with some 20,000 or 30,000 tons stacked, and a bad trade, any of their demands would meet with a prompt refusal. In South Yorkshire, more than in any other part of the Kingdom, the men are aware of their power, so far as it goes, and consequently demand concessions which no other body of men in the trade would think of. At present they are the best paid colliers in England, and have advantages superior to most, seeing that their working time is but 48 hours. The growing demand for machinery to supersede other power—either man or animal—seems likely to meet the requirements of colliery proprietors ere long.

In addition to several COAL-CUTTING MACHINES now in course of construction, Mr. Farrar, of Barnsley, has just patented a machine for underground work in drawing coals in lieu of horses. The first one made was put down a few days ago at the Willow Bank Colliery, and so far has given the greatest satisfaction. Still, as Mr. Farrar has invited me to see its working, I shall reserve a full description of it to a future letter in the *Mining Journal*.

In the Cleveland district the men continue out, the furnaces having been damped out on Saturday last; but as there is a large stock of iron in hand, and the trade very bad, the men will be the sufferers. From Hartlepool and Middlesbrough the export trade has fallen off, and a still further decrease of the business may be looked for unless the men submit to a reduction, which in the present state of the trade, and the inability of makers at home to compete with Belgian makers, is inevitable.

The Mechanical Engineers' annual meeting has been held in the Mechanics' Institute, Manchester—Mr. Joseph Whitworth, the well-known gun manufacturer, and President of the society, occupying the chair. The gathering has been a most interesting one, and several very valuable papers were read—the particulars of which are given in another column of this day's *Journal*.

The engines and machinery in the extensive new works of the Darlington Iron Company, at Albert Hill, were set in motion in the presence of Mr. W. Barnard, the head of the firm, and other gentlemen. The machinery is of the most approved kind, and has been manufactured under the care of Mr. Barnard, at his works, Pendleton, Manchester, and on this occasion gave every satisfaction.

William Fitton, John Hudson, and Allen Boothroyd, employed by Mr. E. Brook, of Fieldhouse, were each fined 20s. and costs for unscrewing the tops of their safety-lamps, and working with naked lights.

The first sod of the Lancashire Union Railways—a scheme intended to open up more fully the mineral districts of South Lancashire—was cut yesterday in the township of Haigh, near Wigan, by Mr. Richard Moon, the Chairman of the directors of the London and North-Western Railway Company.

REPORT FROM MONMOUTH AND SOUTH WALES.

AUG. 2.—The principal feature to notice in the staple trades of the district is the withdrawal by the ironmasters of the notice of a reduction of wages, which was to have come into effect yesterday. The chief cause which actuated the masters in arriving at this decision was undoubtedly the almost certainty which exists in the minds of most people that a permanent peace will be established on the Continent; but it is well known, however, that this decision on the part of the employers was by no means unanimous. It was the opinion of several that a reduction of at least 10 per cent. was perfectly just under present circumstances, and a better opportunity for carrying it out could never have presented itself. On the other hand, several expressed a determination not to carry out the proposition, and hence there was no alternative left but for all to adopt the same course, because it would have been quite impossible for a few of the works to reduce the wages of the men, and the others to keep on at the old scale. Trade generally continues in a lethargic state, and the orders which have come in are few in number. These are principally on home and Eastern account, and amount in the aggregate to about 16,000 tons. Although the late panic has been a severe trial to makers, it has had the effect of destroying speculation, and, in the long run, those who conduct their business on sound bona fide principles will reap the greatest benefit. The rescinding of the resolution in the new American Tariff Bill, which increased the import duty on railway iron, and the postponement of the bill itself till December, has afforded much satisfaction, and several good contracts may now be expected to come in from the States. Besides these indications for a more hopeful feeling, it is reasonable to presume that the money market will shortly become easier, which will have the effect of bringing out those contracts on home account that have been so long kept back. Taking everything into consideration, although the present aspect of affairs is gloomy, there are fair grounds to believe that a change for the better will be inaugurated in a short time. It may here be stated that the intelligence announcing the successful laying down of the Atlantic cable was received in this district with great satisfaction, and as a large proportion of the Welsh manufactured iron finds its way into the markets of the United States, this expeditious mode of communication will prove a great boon to the ironmasters of the district. The pig-iron market is quiet, and neither makers or buyers evince any disposition to enter into transactions. The demand for tin-plates remains about the same, and quotations are moderately well maintained. There is no diminution in the demand for steam coal, and the various collieries are in active operation. The shipment of coal at the local ports for the foreign markets is carried on with much spirit, and there no longer exists any complaints of the detention of vessels in loading. Increased quantities are also sent by rail to the inland markets. The local consumption of house coal has lessened, but the demand coastwise has improved, in consequence of merchants having commenced stocking for the autumn and winter.

Four puddlers have been brought up before the magistrates at Penderrin, on a charge of stealing pig at the Hirwain Ironworks, and moulding it up in the middle of their heats, for the purpose of damaging the rolls. Mr. Simons appeared for the prosecution, and Mr. Bishop defended the prisoners. After going into the case at great length, which appeared to be a very serious aspect, the prisoners were remanded for a month.

Messrs. Levick and Simpson, of the Blaiza and Coalbrookdale Iron-works, who were necessitated to suspend payment last year, have proposed, for the consideration of their creditors, a first dividend of 2s. 10d.

The *London Gazette* of last Friday announces the dissolution of a partnership between Mr. J. Lilley and Mr. D. Howell, of the Pentre Gething Colliery, Swansea.

At the Bristol and South Wales Railway Wagon Company meeting, the directors' report will state that the results of the past half-year have been most satisfactory. The revenue account now shows a disposable balance of

8021*l.* 10s. 8d., after carrying 2115*l.* 3s. 2d., being 5 per cent. per annum on the cost of wagons on hire, to the depreciation fund. The directors recommended a dividend at the rate of 10 per cent. per annum, and a bonus of 1s. per share; that the depreciation fund be in future made depreciation and reserve fund; and that 1000*l.* be carried thereto. There will then remain 597*l.* 6s. to carry to the current half-year's accounts. Debenture bonds for 1400*l.*, due on June 30, were renewed at the request of holders. The company's rolling-stock consists of 3738 wagons. Mr. Handel Cosham has retired from the board, and Messrs. Ford and Gould retire by rotation, but are eligible for re-election.

The Cyfarthfa, Dowlais, and Plymouth Works, on Saturday last, were scenes of great rejoicing, not only among the workmen and their families, but also the general public, who testified in various joyous ways their delight that the proposed reduction in wages would not take place. The publicans dispensed most liberally large supplies of *cidera da* in the fullness of their joy, and shopkeepers distributed ribbons of almost every colour, which were eagerly accepted and worn by the people. In fact, it was quite a gala day. Flags were suspended from windows, and the engines at the works were decorated with ribbons, flags, and evergreens. A large number got up an excursion to Swansea in celebration of the event, where they thoroughly enjoyed themselves.

It is stated that Mr. Thomas Powell has purchased a large extent of land in the neighbourhood of Caerphilly to sink one or two pits.

The Aber Colliery Company shipped their first cargo of coal, of 100 tons, from Portcharwell, on July 18, in the *Neptune*, of Swansea, for Ireland. Our readers (says the *Swansea Herald*) are, no doubt, aware that the owners of this colliery, Messrs. Nicholson and Taylor, of Sunderland, hold the lease from the trustees of the Swansea Grammar School; and to the enterprise of these gentlemen the well-wishers of the school are indebted for the opening out of this property. It is fortunate that the trustees have in the Rev. C. T. Heartley a headmaster with whom they can cordially co-operate; and we doubt not but that the efforts of all parties concerned will, ere long, make a school, which has such a valuable property attached to it, a great benefit to the town and neighbourhood.

THE INSTITUTION OF MECHANICAL ENGINEERS.

The proceedings connected with the moveable annual meeting of this institution, commenced in Manchester, on Tuesday. There was a large gathering of the members from various parts of the country, the assembly taking place in the lecture theatre of the Mechanics' Institution. Mr. Jos. WHITWORTH, President, occupied the chair, and he opened the meeting by thanking the members for having again elected him President, it being now the third time they had conferred upon him that honour.

Mr. W. P. MARSHALL, the secretary, after some preliminary business, read a paper by the President, "On the Proof of Guns by Measurement, with Description of the Instrument employed." The best length for a solid projectile is three diameters, and the total weight of powder the gun can wholly consume is one-seventh of the weight of this projectile. Applying this rule, to the 600-pounder gun now in our service, which has a bore of 13 in., it ought to fire a 990-lb. shot, and consume 141 lbs. of powder, while the American 15-in. bore gun should fire a 1522-lb. shot, with 217 lbs. of powder. These data showed that in these cases the bores were too large, and that the guns themselves were inefficient. The instrument designed by the writer for the proof of guns by measurement was illustrated by diagrams, and the writer stated that with care a skilful manipulation might always detect a difference of only one ten-thousandth part of an inch. During the competitive trials of the special committee, at Shoeburyness, in 1864, the writer designed this instrument for ascertaining the alteration which took place in the bore of the 70-pounder gun under trial. The measurements, which were carefully taken during the firing of nearly 200 rounds, showed that the enlargements of the bore with successive charges of 10 lbs. of powder and 70-lb. shot were regular, and were due entirely to wear of the gun in the powder chamber; but when the powder charge was increased, and a large air space left, the gun being loaded each time with a number of shot, the enlargement of the bore was so rapid that the weight of these charges must have led to the destruction of the gun. The instrument invented by the writer afforded the means of carrying out in the testing of guns the principle adopted in testing girders, by which any risk from undue strain was avoided.

Mr. J. RAMSBOTTOM, Crewe, read a paper describing an improved Reversing Rolling Mill, which has been in operation for seven months at the steel works of the London and North-Western Railway Company, at Crewe. The special point in the arrangement is that the rolls are driven direct by the engine without the intervention of a fly-wheel, and the engine and rolls together are reversed each time that a heat is passed through, the rolling being alternately in opposite directions. The idea of reversing a train of rolls by reversing the engine at each passage of the heat through the rolls was first suggested by Mr. Nasmyth, but has never yet been carried out.

On Wednesday, the first paper read was "On Boiler Explosions and their Records, and on Inspection as a means of Prevention," by Mr. EDWARD B. MANNING, of Stourbridge. The paper was most elaborate, and, with the aid of diagrams, a description was given of all the known forms of boilers, with representations of the kinds of rupture they had undergone. The records of boiler explosions, as gathered from each year of the present century, showed that no fewer than 1046 had occurred, causing the deaths of 4076 persons, and injury to 2903. Of the 1046 explosions, 397 were uncertain as to their cause; 137 were from over-pressure, from safety-valves being weighed down, or from other causes; 119 from incrustation; and 9 from extraneous causes, as lightning, fire, and explosion of gas. The writer was opposed to all idea of internal detonation, or other mysterious causes of explosion. The first real cause he held to be fault in the boiler, arising from bad shape, bad stays, bad material, or bad workmanship; the second, mischief arising during working, either from wear and tear, over-heating, shortness of water, accumulation of scum, corrosion, flaws or fractures in the material, or undue pressure through want of sufficient escape arrangements. He recommended that boilers should not be covered by brickwork, which often concealed the corrosion going forward, but that they should simply have a light roof. He had known five boilers which had been so much injured by having sand put upon them, that they had to be re-plated on their upper sides. Many portions of ruptured plates of various forms were exhibited, some being attributed to corrosion, others to unequal expansion, or to constant vibration at the angles, which tended to a complete circular stripping out of the ends. The evils arising from incrustation from scale were also pointed out, and the use of good water recommended, if even at an increased cost. An interesting discussion ensued, in which many of the members took part; and a vote of thanks was cordially awarded to the author of the paper for his great labour and research.

The SECRETARY read an historical treatise, "On the Preparing and Spinning of Cotton," by Mr. JOHN PLATT, M.P., of Oldham.

A paper by Mr. W. FAIRBAIRN next occupied attention. It gave a description of the means employed for "Removing to a new position the Iron Columns of a fire-proof Cotton Mill in Manchester." These alterations were rendered necessary in some old mills, in order to admit of the new and improved machinery now in use in the cotton trade. The new columns were first fixed before the old ones were cut out, and all the floors were made secure. New wrought-iron beams were fixed under the cast-iron wall of beams, and upon these were raised the new lines of columns, through six feet to the top of the mill. The new columns being fixed, a temporary prop was placed under the middle beam, for the support of the arch above, until the brackets could be attached for their final support. By the plan adopted the process was entirely free from risk, and was conducted from the top storey downwards, until the whole of the floors were placed in new foundations. The work had been carried out at Messrs. McConnell and Co.'s mill, Union-street, Ancoats, by Mr. Andrew Kerr, while the works were in full operation, with several hundred hands employed.

The next paper was "On an Improved Mode of Manufacturing Steel Tyres," by Mr. JOHN RAMSBOTTOM, superintendent of the London and North-Western Railway Company's engineering works at Crewe. The writer stated his object to be the reduction of waste material in the process to an insignificant amount, compared with the weight of the ingot of steel employed, and for ensuring the production of finished tyres of the dimensions required. A third advantage sought was the reduction of the time hitherto necessary in the operation. The ingots were made for Bessemer steel, cast in conical moulds, 22 in. diameter at the base, and 22 in. high, the apex of the cone being cut off at 6 in. diameter, and thus forming the opening for filling the mould. This was sufficient to make a 5-ft. tyre. The moulds are of cast-iron, protected in various ways, the centre of the base being covered with fire-clay, which can be readily renewed. The ingot is then first hammered laterally all round the lower edge of the cone, to consolidate the skin of the metal, after which it is forcibly hammered in the direction of its axis, and reduced to 9 in. in height, with a 10-ton duplex hammer—or two hammers each of this weight meeting horizontally. The ingot, during this powerful treatment, is supported upon a carriage, and can be readily made to rotate, as required. At a further stage a hole is punched in the centre, to form it into a ring, this centre-opening being gradually enlarged by a conical punch and the aid of a beak-anvil. When the hole is punched to 34 in. diameter, and the centre hole to 19 in. diameter, it is then removed to a circular rolling-mill, which was invented by Mr. Rothwell Jackson, a member of the Institute, where it is rolled into a finished tyre, both outside and inside; the latter operation is completed in one heat, of about 5½ minutes. The whole process from the cast ingot is accomplished in four heats, and it was stated that on one occasion six tyres were made in 5 hours and 12 minutes. The quality of the steel is believed to be improved in the operation.

The last paper was contributed by Mr. JOHN F. BATEMAN, of London, "On the Manchester Waterworks." It was stated that the drainage ground extended over 19,000 acres, and in parts had an elevation of 1800 ft. above the level of the sea, and supplied some of the purest water in the world. The average rain-fall was 50 in., and the amount collected 40 in. per annum. There was an available supply of 26 million gallons. In times of flood the water became turbid, but this water, by an ingenious self-acting contrivance invented by Mr. Moore, an assistant to Mr. Bateman, was separated and stored, while the pure water was conveyed direct to Manchester. When there was a flood, and the water consequently turbid, its velocity caused it to shoot over a narrow aperture, into which it would at other times fall, thus causing an important separation. The reservoirs, with the arrangement for working the sluices at different points, were explained pictorially and otherwise; but, Mr. Bateman being unavoidably absent, several questions could not be fully answered, but are to be supplied.—This concluded the reading of papers for the present session.

The members and friends visited the steel-works of the London and North-Western Railway, at Crewe; various engineering establishments in Manchester and the neighbourhood; the Whitworth Gun Factory; the works of Messrs. Platt Brothers, Oldham; the works of Messrs. Beyer, Peacock, and Co., Gorton; and of the Ashbury Company (Limited), Openshaw. The members were invited, on Friday, by the President, to his residence, Standcliff Hall, Derbyshire, which concluded the programme. It is thought likely that next year's meeting may be held in Paris.

THE ASSOCIATION FOR THE PREVENTION OF STEAM-BOILER EXPLOSIONS.—The monthly meeting of this association was held at the offices, Corporation-street, Manchester, on Tuesday. Mr. W. Fairbairn, President, in the chair; when Mr. L. E. Fletcher, chief engineer, presented his report, of which the following is an abstract:—During the last month 182 engines have been examined, and 340 boilers, as well as two of the latter being tested by

hydraulic pressure. Of the boiler examinations, 201 have been external, 10 internal, 129 entire. In the boilers examined, 87 defects have been discovered, seven of these being dangerous. An explosion occurred at a colliery at half-past three o'clock on the morning of Monday, July 2, and resulted in the loss of four lives. The boiler, which was not under the inspection of the association, was of the plain cylindrical externally-fired class. There is nothing either unaccountable or unavoidable in these explosions. The majority of those at collieries arise simply from the use of plain cylindrical externally-fired boilers, which are so dangerous and treacherous as to be entirely unwarrantable. Several explosions, the particulars of which have not yet been reported, have occurred during the last few months to internally-fired single-flued or Cornish boilers, all of which might have been prevented by strengthening the furnace tubes with encircling hoops or flanged seams.

THE TIN TRADE.—Mr. L. Th. van Houten (Rotterdam, July 31) writes—The demand for tin has been good throughout this month, and the more favourable aspect of continental politics caused a steady advance. For Banca the market improved to 47½ fl. in the early part of the month, but subsequently declined to 46 fl. Upon the declaration of the suspension of hostilities the demand became more active, accompanied by an advance to 47½ fl. In Billiton no business has been effected. Several fresh arrivals are reported to-day. The position of Banca tin in Holland on July 31, as shown by the official returns of the Dutch Trading Company, was—

	1866.	1865.	1864.
Import in July	136,425	107,741	2,616
Total seven months	1,354,425	1,115,760	102,288
Deliveries in July	4,575	27,297	25,851
Total seven months	99,230	61,604	68,039
Total stock	226,824	200,467	162,753
Quotation, July 31, new terms 47½ fl.	54½ fl.	54½ fl.	60½ fl.

These returns, compared with those of 1865, show a decrease of the import for July of 297 tons; an increase of the import for the seven months of 619 tons; a decrease of the deliveries for July of 716 tons; an increase of the deliveries for the seven months of 1183 tons; a decrease of the stock second-hand of 2036 tons; an increase of the unsold stock of 2867 tons; an increase of the total stock of 831 tons; and a decline of the quotation of 11½ fl. per ton. The Government returns for the month of May are as follows:—

	May.	1866.	1865.	1864.
Germany	67	123	1096	535
Belgium	25	20	27	132
England	32	18	16	77
France	172	41	124	616
Hamburg	19	15	6	43
United States	26	—	—	149
Other countries	75	35	9	203
Total	369	196	305	1116

According to the official returns, the import of tin for consumption in France has been—

	May.	1866.	1865.	1864.
England	175	137	821	842
Belgium	32	21	21	91
Holland	285	32	49	763
Other countries	22	59	42	89
Total	499	266	249	1451

Exports. Von Dadelzen and North (Aug. 2) write—The arrivals towards the next Dutch sale of Banca continue large, and the old and new stock there now amounts to 226,824 slabs, independently of a supply of about 16,000 slabs Billiton, or considerably over twelve months' consumption. A movement is being made in Cornwall to decrease production, the losses incurred by the miners being so heavy; and there is some talk of sending out an experienced captain to the East, to obtain information as to the cost of producing tin in the Dutch settlements, as well as in the Straits of Malacca, and Junk Ceylon; but of this we may rest assured, that at a low price for the metal, the mines of Cornwall cannot successfully compete with the East, where labour is so much cheaper, and where the tin itself is so much nearer the surface.

COAL MARKET.—The arrivals this week amounted to 94 ships. For household coal the demand has been less active, but nearly the whole quantity is cleared off at a reduction of from 6d. to 9d. per ton on last week's quotations. Hartley's steady, and without alteration in prices. Hetton Wallsend, 20s. 3d. per ton; South Hetton Wallsend, 20s.; East Hartlepool Wallsend, 19s. 6d.; Braddyl's Hetton Wallsend, 19s.; Tees Wallsend, 19s. 6d.; Eden Main, 18s. 6d.; Kellie Wallsend, 18s. 3d.; Tunstall Wallsend, 17s. 9d.; Hetton Lyons Wallsend, 17s. 9d. per ton: 3 cargoes unsold; at sea, 20 ships.

MINING NOTABILIA.

[EXTRACTS FROM OUR CORRESPONDENCE.]

THE COPPER TRADE at last shows some signs of improvement—the exports for the last month, as stated in the Board of Trade returns, show an increase of nearly 25 per cent. as compared with the preceding. Such an increase should certainly have a material effect in reducing the present stocks, and should send up prices.

Some splendid gold is reported to have been broken at CLOGAU on Tuesday last.

NEW CLIFFORD.—Notwithstanding the depressed state of mining in the Gwennap district, the works at this promising mine are being pushed on with vigour. The engine-shaft is down 36 fms., the flat-roof shaft 20 fms., and the agent is of opinion that a course of copper ore is near at hand. There is little doubt but the shareholders will soon be well rewarded for their outlay.

PRINCE OF WALES.—This mine has attracted a great amount of attention from the success of the operations, the discovery of a rich course of copper ore, and the raising and sale of about 5000. worth from 9 fms. driving and 3 fms. stoped, and is now considered to be second only to the first discovery at Devon Great Consols and East Caradon. Water-power enabled the company to make this discovery, but for the further working it was decided to erect a steam-engine. To show the energy of those engaged in this work, it will be enough to say that in two days short of seven weeks the quarry was opened, the engine-house, stack, &c., built, and the engine erected and set to work. Such an event at the present time is of great importance, and it is hoped it may prove a turning point, the recent great depression in the metal market having caused the stoppage of very many mine engines, so that the erection of one is quite an exception. Coupling this with the fine discovery, in a first-class position on the junction of the killas and granite, on Hingston Down, it need not create surprise that the celebration of setting the engine to work caused great satisfaction. About 1 o'clock on Saturday last Mr. Wm. Matthews, the engineer, started the engine in the presence of a large number of shareholders, mine agents, and all employed on the mine, who, on the first stroke of the engine, gave three hearty cheers for the success of the undertaking, and christened the shaft "Watson's shaft." The men were then regaled with beer, and each presented with 2s. 6d. In celebration of the event, while the shareholders and friends adjourned to the account-house, where an excellent dinner was served up, the chair being taken by the London secretary, Mr. John Hitchens, and the vice-chair by the purser, Mr. H. E. Croker, of Plymouth. Amongst those present were Messrs. W. Matthews, W. Matthews, Junr., Jos. Matthews, W. Kendall (Redruth), A. Proul, H. Pearce, J. Pearce, J. Vosper, and Capt. H. James (Redruth), T. Taylor, G. Rowe, W. C. Cock, J. Key, John Gifford, W. Collom, W. Gifford, H. Rickard, G. Rowe, P. W. Mitchell, &c. The usual loyal toasts were given and responded to, as well as "Success to the Mine," &c., and a very successful meeting terminated, with a hope that the day may not be far distant when they should meet again to start "Engine Number Two," and that success might attend many of their neighbours, and be shared in by the county generally.

EXTRAORDINARY SALE OF MINE MACHINERY.—At Redruth last week the whole of the plant of South Carn Breca Mine was sold. In the present time of great mining depression, when so much machinery and mine materials are offered for sale, it could not be expected that such property would realise anything like its average value; but prices realised last week were far less than before known as prices for expensive machinery, &c. There were three draught engines, pitwork, tin leavings, copper ore, &c., and the whole, although the machinery, &c., cost over 10,000l., was sold for about 900l. Mr. W. H. Trengoon, a large shareholder in Wheel Seton, and Mr. Edward King, of Austinfriars, purser of Great Busy and other mines, are stated to have been the purchasers.

At Mr. Marsh's periodical sale, at Guildhall Coffee-house, on Thursday, 110 shares in the Val Sassam Mining Company were submitted for sale. The auctioneer called attention to the fact of the mines being under the management of Messrs. J. Taylor and Son, and that it was expected in a short time some very important discoveries would be made. The shares were limited to 10l. each, of which amount 5l. 10s. per share had been paid, and the purchaser would have to pay another call of 10s. per share on the 4th inst. The reserve price being in excess of the highest bid made, the shares were not sold.

The Master of the Rolls has appointed Mr. S. Lovelock, of Coleman-street, official liquidator of the Ramsgate Victoria Hotel Company (Limited).

MR. E. HARVEY WADGE, F.G.S., Editor of the "IRISH INDUSTRIAL MAGAZINE," begs to announce to the subscribers and to the public that the PUBLICATION of that periodical HAS CEASED. In making this announcement Mr. WADGE desires to return his grateful thanks to the numerous subscribers and contributors who have so heartily supported his enterprise. The amount of support received has been far greater than could have been anticipated, and would have undoubtedly resulted in making the "Irish Industrial Magazine" an ultimate success in every respect, if Mr. WADGE's other engagements had permitted his devoting to it an adequate proportion of his time.

As it is, however, Mr. WADGE finds this to be impossible. His object throughout has been the promotion of Irish industry, and it was his opinion that, in the first instance, this would be best attained by the establishment of a periodical devoted exclusively to the discussion of its conditions. The result has not disappointed his expectations, for the amount of public attention the Magazine has drawn to the industrial resources of Ireland has been the means of attracting a large amount of British capital to their development. In the direction of some of these investments Mr. WADGE now finds that such a large proportion of his time will be absorbed as to render an adequate supervision of the "Irish Industrial Magazine" on his part impossible; and as there can be no question that he will best serve the cause of Irish industry by bringing about an active expenditure of capital in developing its various and magnificent resources, he has not hesitated in abandoning whatever could interfere, in however small a degree, with his exclusive devotion to this object.

THE UNITED KINGDOM PATENT FUEL COMPANY

(LIMITED).
Incorporated under the Companies Act, 1862 (25 and 26 Vic., c. 89).
Capital £100,000, in 10,000 shares of £10 each.
(With power to increase the amount.)
£1 per share payable on application, £2 on allotment, and £2 on January 1, 1867, beyond which it is not anticipated any call will be made.
Two thousand shares have already been taken by shareholders of the London Patent Coal Company (Limited).

DANIEL CLARKE, Esq., 22, Milner-square, N.
T. R. DENNY, Esq., Corn Exchange Chambers, Mark-lane (Chairman of the London Patent Coal Company).
WILLIAM FOOKES, Esq., Pewsey Wharf, Marlborough, Wilts.
GEORGE HAMMOND, Esq., Horsmonden, Kent.
B. J. HUDSON, Esq., Great Peter-street, Westminster (Director of the London Patent Coal Company).

(With power to add five to their number.)
CONSULTING ENGINEERS.
Messrs. Davison and Scamell, 1, London-street, E.C.
BANKERS.
The London and County Bank, Lombard-street, and its branches.
SOLICITORS.
Messrs. Digby and Son, 35, Lincoln's Inn-fields, W.C.
SECRETARY (pro tem.)—E. L. Cockerell, Esq.
BROKER.
John Inman, Esq., 15, Throgmorton-street and Stock Exchange.
OFFICES.—26, MARTIN'S LANE, CANNON STREET, E.C.
WORKS.—NORTH-FLEET, KENT.

PROSPECTUS.
This company is formed for the purpose of purchasing and extending the operations of the London Patent Coal Company (Limited), a company formed in the latter part of the year 1864, having for its immediate object the utilisation of small coal or coal dust. The entire success of this latter company as an experiment has rendered the establishment of the present company a matter of absolute necessity.

No one unacquainted with the working of coal mines can have any conception of the enormous waste at the pit's mouth. The dust, which in many cases contains the most valuable properties of the coal, has been considered as waste and useless, whereas its conversion into blocks under the process of this company's patent renders it at least as valuable as large coal for manufacturing and locomotive purposes.

The recent discussions in Parliament and the public press, which the limits of a prospectus render it impossible to extract, make the present a most favourable and advantageous moment for extending operations. While it is believed there is little cause for alarm in anticipation of a stoppage in the supply of coal, it is, nevertheless, open to grave apprehension whether the extraordinary waste now going on will not eventually cause such an advance in its price as materially to cripple the industry and manufactures of the country.

From amongst the numerous communications which have recently appeared in the daily papers on the "Coal Question," the following letter, extracted from the Times of May 9, 1866, has been selected, as it bears upon the very points which this company is prepared to carry out, and emanates from a gentleman thoroughly conversant with the subject on which he writes:—

THE EXHAUSTION OF OUR COAL BEDS.
(To the Editor of the Times.)

SIR,—The question of the duration of our coal fields is now attracting so much attention that I am induced to address this letter to you.

In February, 1861, I read a paper "On the large proportion of Coal lost in working" before the members of the South Wales Institution of Engineers, in which I gave the results of several investigations I had made over extensive areas of exhausted coal fields, and proved that the loss of coal in working had in three instances exceeded 30 per cent. of the actual contents of the seam or vein of coal, and that even a higher percentage was lost in some of the steam coal collieries. I may be that the improved system of working coal has in many instances diminished this proportion of loss, but, under the most favourable circumstances, a very large quantity of small coal is left behind in the mine, which will not repay the owner the cost of raising it to the surface, as no market can be obtained for it. As representing very extensive mining interests, I feel it would be impossible to overrate the great gain which would result if some practical and economical means could be discovered for the conversion of small non-bituminous coal into blocks, without the use of the expensive ingredients now employed in manufacturing "compressed coal" or "patent fuel." The price now paid for "patent fuel" is rather higher than the price obtained for large steam coal.

The importance of this subject is of such magnitude that I respectfully suggest the necessity of a Government Commission of Inquiry to lay the facts before the public, and ascertain if by the combined aid of science and chemistry some means can be discovered to arrest this enormous loss in our coal fields.

A premium might be offered for the best method of converting the small coal at the pit's mouth into a marketable commodity, which would insure a practical investigation of the subject by chemists and scientific men.

ALEXANDER BASSETT, M.L.C.E.,
Past President of the South Wales Institution of Engineers.

The purchase will include Mr. David Barker's patent, for the purpose of working which the London Patent Coal Company (Limited) was formed. It will also include the lease of most valuable premises on the banks of the Thames at Northfleet. These are admirably adapted for the purpose, in good repair, just beyond the radius of the City dikes, and immediately opposite the coaling station of outward bound steamers. Likewise, the whole of the valuable steam machinery and plant, &c.

The works are in full operation, and show in an eminent degree the successful manner in which the process can be worked. Northfleet is a station on the North Kent Railway, near Gravesend, and the recipients of this prospectus are invited to visit the works (which are near the station), to inspect the manufacture. For this purpose, tickets will be forwarded on application, or the production of this prospectus will gain admission.

Among the advantages of the fuel manufactured by the company's process may be mentioned its entire freedom from smell, the ingredients used containing no tar, pitch, or other noxious substances. It burns brightly, leaves little clinker, does not injure the fire-bars or furnaces, and is suitable for all domestic uses of ordinary coal, whilst for locomotives and steamers its value can hardly be overrated on account of its compact storage—1 ton of the fuel occupying 32 cubic feet only, whilst the Admiralty measurement for coal is 42 cubic feet per ton.

The quantity now manufactured weekly amounts to about 150 tons, with results realising a small profit. An outlay, however, of £3500 in addition to the present machinery, &c., will raise the quantity manufactured to 600 tons per week, with the following results:—

600 tons coal dust at 2s. 3d. (present cost)	£ 67 10 0
Freight to Northfleet (per screw collier), 5s.	150 0 0
Portage, &c., 5d.	12 10 0
Labour (say 25 men and boys)	30 0 0
Mucilage, at 1s. 3d.	37 10 0
Rent, taxes, and salaries (say)	20 0 0
Fuel to engines and furnaces, say 25 tons at 17s.	21 5 0
Leaving a margin for wear and tear, interest on capital, and all incidental expenses of	171 5 0 = £510 0 0

This estimate refers to the Northfleet Works only.

These figures have been tested by the local manager, and the engineers, Messrs. Davison and Scamell.

But when it is considered that the demand for the fuel is only limited by the means of supply, it will be at once apparent that the enlargement of the works now successfully established cannot fail to return very large profits to those interested.

For the additional capital proposed for the present company is required for extending the landing-stage, in order that vessels of any size may come alongside at any state of the tide. This will effect a saving of 1s. to 1s. 6d. a ton, amounting to a very large annual sum. Proper appliances for unloading would also reduce the item of portage from 5d. to 1d. per ton.

It is further contemplated, as the company progresses, erecting similar works in the North of England and South Wales, in order that the company may avail itself of the enormous trade from ports in those parts of the kingdom. The manufacture will be confined to the best descriptions of coal.

Overseers have also been made by the directors of another company, fully aware of the great value of our invention, for the transfer of their valuable plant, which can be adapted to the purposes of the present company. By this purchase some thousands of pounds of preliminary capital will be saved, but, pending negotiations, particulars are reserved.

A large revenue is reasonably to be expected from the sale of licenses, the present charge for which is £200, and a royalty of 1s. per ton. Negotiations are now pending with some of the largest coalowners in the kingdom, to the benefit of which, when completed, the shareholders of the present company will be entitled.

It is believed that the whole of the shareholders of the London Patent Coal Company (Limited) will come over to the new company, it being already ascertained that over three-fourths holding shares will do so.

The liability of every shareholder is, by the Act of Parliament above referred to, expressly limited to the amount of his shares.

In addition to the manufacture of blocks for steam purposes, it is proposed to erect machinery for making small blocks suitable for household use; and with this in view the directors have with Messrs. E. L. Cockerell and Co., of Warwick-street, Pimlico, and New Wharf, Westminster, to act as their agents for the introduction of the fuel to their customers and the public. It is well known that the public complain that so large a proportion of small is delivered with the ordinary coal, and merchants frequently receive orders to send all lumps, a request with which it is impossible to comply. The United Kingdom Patent Fuel Company (Limited) will meet this requirement, and supply solid blocks of coal without any small whatever.

There are other important advantages attending the proposed fuel. Being free from dust it is quite clean, and can be handled without soiling. It consumes slowly, and leaves a residue of very good cinders, whereas the coal hitherto compressed, having bitumen mixed with it, burns fast, and is reduced to ashes.

Applications for shares may be made in the annexed form. Each applicant is required to pay to the bankers of the company £1 per share on the number of shares applied for, in exchange for which a receipt will be given; and upon allotment a further payment must be made of £2 per share on the number of shares allotted. In the event of less than the number applied for being allotted the amount paid to the bankers in excess will be returned, but in case no allotment be made the deposit will be returned in full.

The memorandum and Articles of Association, with a draft of agreement between the London Patent Coal Company (Limited) and the present company can be seen on application to the solicitors; and all further information respecting the merits, as well as samples of the manufacture, can be obtained from the broker, or the secretary, at the offices of the company.

FORM OF APPLICATION FOR SHARES.
(To be retained by the bankers.)

No.
To the Directors of the United Kingdom Patent Fuel Company (Limited).
GENTLEMEN,—Having paid to your bankers the sum of £

being a deposit of £1 per share on shares in the above company, I hereby request that you will allot me that number; and I agree to accept such shares or any less number you may allot to me, and I agree to pay the sum of £2 per share on allotment, and the further sum of £2 per share on the 1st January, 1867, and I authorise you to insert my name on the register of members for the number of shares allotted to me.

Usual signature.....
Name in full.....
Residence.....
Profession.....
Date....., 1866.

LONDON AND COUNTY BANKING COMPANY.

ESTABLISHED 1836.
Subscribed capital £1,875,000, in 37,500 shares of £50 each.
Paid-up capital, £750,000.
Reserve fund, £250,000.

DIRECTORS.
NATHANIEL ALEXANDER, Esq., JOHN EDMUND ANDERDON, Esq., THOS. TYRINGHAM BERNARD, Esq., PHILIP PATTON BLYTH, Esq., JOHN WILLIAM BURMESTER, Esq., COLES CHILD, Esq.,
JOHN FLEMING, Esq., FREDERICK HARRISON, Esq., EDWARD JOHN HUTCHINS, Esq., WILLIAM CHAMPION JONES, Esq., WILLIAM LEE, Esq., M.P., WILLIAM NICOL, Esq.,
GENERAL MANAGER—William McKewan, Esq.,
CHIEF INSPECTOR—W. J. Norfolk, Esq.,
ASSISTANT GENERAL MANAGER—William Howard, Esq.,
CHIEF ACCOUNTANT—James Gray, Esq.,
INSPECTOR OF BRANCHES—H. J. Lemon, Esq., and C. Sherring, Esq.,
SECRETARY—F. Clappison, Esq.,
HEAD OFFICE,—21, LOMBARD STREET.

At the HALF-YEARLY GENERAL MEETING of the proprietors, held on Thursday, the 2d of August, 1866, at the London Tavern, Bishopsgate-street, the following report for the half-year ending the 30th June, 1866, was read by the secretary, WILLIAM NICOL, Esq., in the chair.

REPORT.

The directors, in submitting to the proprietors the balance-sheet of the bank for the half-year ending the 30th June last, have to report that, after payment of all charges, interest to customers, and making ample provision for bad and doubtful debts, the net profits amount to the sum of £85,440 17s. 8d.; this, with £14,527 18s. 10d. brought forward from the last account, produces a total of £99,968 16s. 6d.

They have declared the usual dividend of 6 per cent. for the half-year, with a bonus in addition of 5 per cent. (equal to 22 per cent. per annum), which will amount to £82,500, and leave £17,468 16s. 6d. to be carried forward to profit and loss new account.

Mr. John Edmund Anderdon has been elected a member of the board. Mr. Hugh C. E. Childers, M.P., who retired from the direction on assuming the position of Secretary to the Treasury in the late Government, being now relieved from the duties of his office, will, at the unanimous request of the directors, resume his seat at the board.

The dividend and bonus (together £2 4s. per share), free of income tax, will be payable at the head office, or at any of the branches, on and after Monday, the 13th inst.

BALANCE-SHEET OF THE LONDON AND COUNTY BANKING COMPANY, JUNE 30, 1866.

DR.—To capital paid-up	£ 750,000 0 0
Reserve fund	250,000 0 0
Amount due by the bank for customers' balances, &c.	£10,718,483 16 1
Liabilities on acceptances, &c.	2,032,490 10 1 = 12,750,974 6 2
Profit and loss balance brought from last account	14,527 18 10
Gross profit for the half-year, after making provision for bad and doubtful debts	348,310 10 10 = 362,838 9 8
Total	£14,113,812 15 10
CR.—By cash on hand at head offices and branches	£ 2,149,216 5 1
Cash placed at call and at notice ..	883,396 5 9 = £ 3,032,612 10 10
Investments, viz.— Government and guaranteed stocks ..	194,381 17 3
Other stocks and securities	99,308 13 11 = 293,690 11 2
Discounted bills, and advances to customers in town and country	10,410,772 8 0
Freehold premises in Lombard-street and Nicholas-lane, freehold and leasehold property at the branches, with fixtures and fittings	156,078 18 0
Interest paid to customers	126,581 10 5
Salaries and all other expenses at head office and branches, including income tax on profits and salaries ..	94,076 17 5
Total	£14,113,812 15 10
PROFIT AND LOSS ACCOUNT.	
DR.—To interest paid to customers	£126,581 10 5
Expenses as above	94,076 17 5
Rebate on bills not due, carried to new account	42,211 5 4
Dividend of 6 per cent. for the half-year	45,000 0 0
Bonus of 5 per cent.	37,500 0 0
Balance carried forward	17,468 16 6
Total	£362,838 9 8
CR.—By balance brought forward from last account	£ 14,527 18 10
Gross profit for the half-year, after making provision for bad and doubtful debts	348,310 10 10
Total	£362,838 9 8

We, the undersigned, have examined the foregoing balance-sheet, and have found the same to be correct. (Signed) WILLIAM NORMAN, } Auditors.

R. H. SWAINE, }
London and County Bank, July 26, 1866.

The foregoing report having been read by the secretary, the following resolutions were proposed and unanimously adopted:

- 1.—That the report be received and adopted, and printed for the use of the shareholders.
- 2.—That the capital of this banking company be increased by the creation of 20,000 additional shares of £50 each, and that such shares be issued at such times and in such manner as may be determined at some annual or half-yearly general meeting, or at an extraordinary meeting of the shareholders called and held in accordance with the provisions of the Deed of Settlement.
- 3.—That the thanks of this meeting be given to the board of directors for the able manner in which they have conducted the affairs of the company.
- 4.—That the thanks of the meeting be presented to William McKewan, Esq., and to the principal and other officers of the bank, for the zeal and ability with which they have discharged their respective duties.

Signed, W. NICOL, Chairman.
The Chairman having quitted the chair, it was resolved, and carried unanimously:—

- 5.—That the cordial thanks of this meeting be presented to William Nicol, Esq., for his able and courteous conduct in the chair.

Signed, W. CHAMPION JONES, Deputy-Chairman.
Extracted from the Minutes.
Signed, F. CLAPPISON, Sec.

LONDON AND COUNTY BANKING COMPANY.

Notice is hereby given, that a DIVIDEND on the capital stock of the company, at the rate of SIX PER CENT. for the half-year ending 30th June, 1866, with a BONUS of FIVE PER CENT. will be PAID to the proprietors, either at the head-office, 21, Lombard-street, or at any of the company's branch banks, on and after MONDAY, the 13th inst.

By order of the Board, W. MCKEWAN, General Manager.

21, Lombard-street, August 3, 1866.

THE GREAT WEST CORNWALL MINING COMPANY

(LIMITED).
Capital £100,000, in 5000 shares of £20 each; £5 payable on application, and £5 on allotment.

DIRECTORS.
E. HARVEY WADGE, Esq., F.G.S., CHAIRMAN.
ALEXANDER MILLER, Esq., Ashton-on-Mersey, Merchant.
W. H. WILLIAMS, Esq., Manchester, Merchant.
C. W. H. PROVIS, Esq., Meriton House, Withington.
The Hon. EDWARD LEESON, the Temple, London.
(With power to add.)

The directors invite the attention of capitalists to the prospects of this company, with a view to placing the shares remaining unallotted.

The experience of British metallic mining has long since established the principle that the only reliable condition of success is that of combining in one enterprise the opening of several properties, and in no instance has this principle failed to give almost incredible profits, amongst which stands conspicuous the famous Devon Great Consols, the original outlay in working a group of several mines having resulted in now giving profits to the extent of £60,000 a year.

This principle has been adopted in the case of the Great West Cornwall Company, which owns the following four mines, viz.—The Revere Mine, the Silver Valley Mine, Bospibo Mine, and Seton Consols, which were carefully selected from amongst eighteen others. After ten years' investigation and development, each mine is in active operation, and even at this early stage such discoveries have been made at two of them, the Seton Consols and the Revere, as quite to destroy any question as to the company yielding immense dividends to the shareholders.

CONSOLIDATED COPPER MINES OF COBRE.—Notice is hereby given, that a SPECIAL GENERAL MEETING of the proprietors of this association will be HELD at the offices of the company, Gresham House, Old Broad-street, in the City of London, on TUESDAY, the 21st day of August inst., at one o'clock in the afternoon, precisely, for the purpose of confirming certain resolutions passed at a special general meeting of the proprietors of the association, held on the 31st day of July, 1866.

Dated August 2, 1866.

H. R. GRENFELL, } Directors of the
WALTER SHARP, } Company.

CONSOLIDATED COPPER MINES OF COBRE.—At a HALF-YEARLY GENERAL MEETING of the proprietors of the association, held at the offices of the company, Gresham House, Old Broad-street, this 31st day of July, 1866,

HENRY R. GRENFELL, Esq., M.P. (Chairman), in the chair,

The advertisement convening the meeting having been read, the following reports were read:—

The audited account for the year 1865 is now submitted to the shareholders. In consequence of the indisposition of Mr. Thomas Curtis, one of the auditors, the directors have availed themselves of the services of Messrs. Cooper Brothers and Co., public accountants, to assist in the audit.

With reference to the operations of the past year, two causes combined will fully account for their being unsatisfactory—the first, the continued accidents that have occurred to the machinery, and consequent inability to work the most profitable parts of the mines, which were solely reported upon by Mr. Petherick in his report dated June 8, 1865, and from which, since July, 1864, to the end of May of the present year, scarcely any ores have been raised, thereby entailing a great falling off in the produce, without a corresponding diminution of expenses; and, secondly, the continued prostration of the copper market, the fact being that, taking the price the ores fetched in January last as compared with the present price, a difference exists in the value of each cargo of about £2000. This, upon 10 cargoes, some of which have been lately sold, and others at sea, and expected to arrive in the next two or three months, alone amounts to the sum of £20,000.

The ores raised during the first five months of this year amount to 5364 tons, being 11 tons less than those of the same period in the preceding year; of these, 3202 tons were dust ore for shipment, 1223 tons poor ore for smelting, 896 tons stone, and 45 tons precipitate, of an average, exclusive of the poor ore, as nearly as can be ascertained, of 13½ per cent. Those already sold have realised 13s. 10d. per unit, whereas those sold in 1865 averaged 15s. 6½d. The poorer ores average about 8 per cent.

The make of regulus to the end of May has been 290 tons, being 347 tons less than that of last year. The regulus sold up to the present time has averaged 30 per cent.

The smelting works now consist of five calciners and four furnaces; and materials have been sent from this country for the erection of six additional calcining furnaces, on an improved principle. When these are all in operation better results are anticipated.

With reference to the future prospects and capabilities of the mines, and the state and power of the machinery at the mines, the directors have requested Mr. Petherick to consider the subject, and report specially thereon, which he has done, and they have now the pleasure of submitting his report for the consideration of the shareholders, by which it will be seen that the capabilities of the mines for producing ores are as good as at the time of his visit to them in the year 1865, the great drawback being the very depressed price the ores now fetch.

A vacancy having occurred in the direction, by the resignation of Henry Druce, Esq., the directors do not on the present occasion propose to fill it up.

The shareholders will observe that at the conclusion of the present meeting it is proposed to hold a special general meeting for the purpose of accomplishing the objects stated in the advertisement calling such meeting, in reference to which the capital account and balance-sheet of the company, up to Dec. 31, 1865, are now laid before the shareholders; also an estimated account of the probable out-turn of the operations of the first five months of the present year.

It was then moved, seconded, and carried unanimously:—

That the report of the directors and the accounts now read be received and adopted.

At the conclusion of the half-yearly general meeting a SPECIAL GENERAL MEETING was immediately held, at which resolutions were passed:—

- 1.—For increasing the company's capital.
- 2.—For registering of the shares of the company's capital, and of transfers of the shares.
- 3.—The cancelling of the now existing certificates of shares, and the issuing of new certificates in exchange.
- 4.—For repealing certain of the company's regulations established by their supplementary Deed of Settlement of Nov. 24, 1865.
- 5.—For reviving certain of the company's regulations established by their Deed of Settlement of 13th July, 1865, and repealed in whole or in part by that supplementary Deed.
- 6.—And for registering of the company under the Companies Act, 1862, as a limited company.

It was then moved, seconded, and carried unanimously:—

That the best thanks of the proprietors be given to the Chairman and Directors, for their services in conducting the affairs of the company.

To the Chairman and the Board of Directors of the Consolidated Cobre Copper Mining Company.

Sarbiton, July 20, 1866.—In compliance with the request contained in your communication to me on the 24 inst., I now beg to submit for your consideration the following observations on the several points to which my attention has been specially directed, founded on a careful consideration of the contents of the several reports and estimates of the chief mining agent of the Cobre Mines, and other documents relating to those concerns of comparatively recent date, placed in my hands for that purpose:—

From the mine agent's monthly reports and statements, it is quite evident that the falling off of the returns during the last year is due to the neglected state of the old mine, "Ysabella," and to the partial suspension of the underground operations there, in consequence of the defective state of Ellice's pumping-engine, and other causes to which, on this occasion, I need not more particularly refer. A very considerable extent, therefore, of productive ground, discovered and partially laid open previous to my visit in 1865, still remains unexplored and available for future returns in the bottom levels of this mine; and taking into account the subsequent discovery of the north lode in the Great Mine, which has yielded considerable returns, and still continues very productive, it appears to me that the mines, on the whole, are at present in a more productive state than they were three years since, when the returns from the Old Mine exclusively were estimated at 130 tons of dressed ores per month. Under such circumstances, therefore, I have no hesitation in expressing my conviction that if proper attention be paid to the keeping of the machinery in efficient working order, so as to drain the Old Mine effectually, and avoid the frequent interruptions of the underground operations, hitherto so detrimental to the company's interests, there is every probability that the future monthly returns will amount to at least 1400 tons of ores of a probable average percentage of 13½. The present smelting works erected on the mines consist of four smelting-furnaces, with the necessary calciners; and, assuming that three smelting-furnaces are kept in full operation at all times, they are sufficient for the treatment of from 1500 to 2000 tons of ores per month. On referring to the accounts, however, for the four months ending May last, I find that the quantity of ores treated at the works did not exceed 1370 tons, or an average of 342 tons per month. The quantity of regulus to be produced within any given period will, of course, depend upon the percentage of the ores to be treated, as well as the degree of concentration to which they are to be reduced; but, assuming that the quantity of ores to be operated on at the Cobre Smelting Works amounts to the minimum of 450 tons per month of an average percentage of 8 per cent., the quantity of regulus produced should be about 106 tons of 34 per cent. I am, however, of opinion that in order that the maximum amount of advantage should be derived from the smelting works, the ores should be concentrated to at least a regulus of 40 per cent., which would reduce the monthly quantity obtainable from 450 tons of ores to 90 tons per month, thus effecting an additional saving of the export charges on 16 tons of regulus, amounting to £76 per month, or say £900 per annum. With the whole of the productive portions of the mines in regular and continuous operation, the future monthly produce, as already stated, may be estimated at 1400 tons of an average percentage of 13½; and of that quantity I assume that from 450 to 500 tons of 8 per cent. can be treated at the smelting-works, leaving for exportation in the raw state from 900 to 950 tons of an average of 16 per cent. During the five months ending May last the monthly returns averaged 1075 tons of ores, whilst the working expenses during the same period amounted, on an average, to £583 3s. 6d. per month, and the average cost per ton to £5 0s. 4d., being considerably above the estimated amount. The result is, no doubt, attributable mainly to the falling off in the quantity of the ores raised, as compared with former returns; and as the establishment charges are fixed, in a great measure, and will not vary materially in either case, it necessarily follows that with the estimated increase of returns, there would be a corresponding reduction of the cost per ton; and making every reasonable allowance for contingencies, I think that with a proper attention to economy they should not then exceed at the utmost £4 5s. per ton, and on these data I am of opinion that the mines can, even at the present low price of copper, be worked without loss to the shareholders, provided the expenditure in every department be reduced to the lowest amount compatible with efficiency. The pumping machinery now on the mines appears to me to be sufficient, if put into an efficient state of repair, and properly attended to afterwards, to keep the mines effectually drained; and, under existing circumstances, I do not think that any extraordinary outlay for new machinery will be required; it will, however, be necessary to incur the expense of replacing the remaining defective pumps and rods in Ellice's shaft in the first instance; and also of repairing Ellice's pumping-engine, so that it may, in case of accident, be made available as an auxiliary to Hardy's engine, and thus lessen the danger of an interruption of the underground operations. In conclusion, I would strongly advise that, until a satisfactory arrangement for a reduction of the present enormous railway charges on the transit of the ores, and of the materials required for the use of the mines, shall be come to, all expenditure on works of a purely speculative and unproductive character should be avoided, and that the working expenses should be confined, as far as practicable, to the further exploration of the productive portions of the lodes, and the extraction of the ores already discovered.

JOHN PETHERICK, F.G.S.

MR. CHARLES BAWDEN, INSPECTING MINE AGENT. ST. DAY CORNWALL, OFFERS HIS SERVICES TO CAPITALISTS SEEKING TO INVEST IN *bona fide* MINES.

PRINCE OF WALES.—Through an error in transcribing, we last week understated the distance between this mine and East Caradon. It should have been some 10 miles. Not that any comparison exists between them, as hitherto not a mine in the neighbourhood of the former has repaid its call expenditure. Bunches of ore have been met with, which have usually only afforded opportunities for running up shares, to the heavy loss of unfortunate purchasers. In our opinion, the large advance in Prince of Wales is unwarranted, not an ounce of ore having been discovered since the shares were at 6s. each. We advise our friends to sell, as, if the market turns, it will be next to impossible to get rid of them.

T. TREVOIR AND CO.
Read Trevoir and Co.'s "Mining and Mining," forwarded for three stamps, by C. J. Chapman, 3, Upper John-street, Barnsbury-park, London, N.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WEST CORNISH COPPER MINING COMPANY.—By the direction of his Honour the Vice-Warden, notice is hereby given that, on Tuesday, the 14th day of August next, at the Registrar's Office, at Truro, in the county of Cornwall, at Eleven o'clock in the forenoon, this Court will PROCEED to MAKE a CALL of ONE POUND SIX SHILLINGS and EIGHT PENCE PER SHARE on all the contributories of the said company settled on the list of contributories under Class A.

All persons interested therein are entitled to attend at the time and place aforesaid to offer objections to such call.
Dated this 28th day of July, 1866.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the ST. JUST UNITED TIN AND COPPER MINING COMPANY (LIMITED).—By an order made by his Honour the Vice-Warden of the Stannaries in the above matter, dated the 26th day of July inst., on the petition of William John Rawlings, of Hayle, within the said Stannaries, a creditor of the said company, it was ordered that the ST. JUST UNITED TIN AND COPPER MINING COMPANY (LIMITED) should be wound-up by the Court, under the provisions of the Companies Act, 1862.

JUDGE, HOCKIN, AND MARRACK, Solicitors, Truro.
Dated Truro, 28th July, 1866.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the WEST PAR CONSOLS MINING COMPANY.—By the direction of his Honour the Vice-Warden, notice is hereby given, that on Monday, the 13th day of August inst., at the Registrar's Office, at Truro, in the county of Cornwall, at Eleven o'clock in the forenoon, this Court will PROCEED to MAKE a CALL of SEVEN SHILLINGS and SIX PENCE PER SHARE on all the contributories of the said company settled on the list of contributories under Class A.

All persons interested therein are entitled to attend at the time and place aforesaid to offer objections to such call.
Dated the 1st day of August, 1866. WILLIAM MICHELL, Registrar.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the RETANNA HILL MINING COMPANY.—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED, on or before the 15th day of August instant, to SEND IN THEIR NAMES and ADDRESSES, and the AMOUNTS and PARTICULARS of THEIR SEVERAL claims on the said company, to WILLIAM MICHELL, Esq., The Registrar of the said Court at Truro.

Dated Truro, Aug. 2, 1866.

In the Court of the Vice-Warden of the Stannaries. Stannaries of Devon.

IN the MATTER of the COMPANIES ACT, 1862, and of the DUKE MINING COMPANY.—By the direction of his Honour the Vice-Warden, notice is hereby given that on the 14th day of August next, at the Registrar's Office, at Truro, in the county of Cornwall, this Court will PROCEED to MAKE a CALL of TEN SHILLINGS PER SHARE on all the contributories settled on the list of contributories of the said company under Class A.

All persons interested therein are entitled to attend at the time and place aforesaid to offer objections to such call.
WM. MICHELL, Registrar of the said Court.
Dated Registrar's Office, Truro, the 28th July, 1866.

VALUABLE FREEHOLD ESTATE, WITH COPPER MINE, MACHINERY, AND MATERIALS.

Messrs. SKARDON AND SONS WILL SELL, BY AUCTION, at the Bedford Hotel, Tavistock, on Tuesday, the 7th day of August, 1866, at Two o'clock P.M., subject to conditions to be then produced, all that VERY VALUABLE FREEHOLD ESTATE, known as the COLCHARTON ESTATE, situate near TAVISTOCK, in the county of DEVON, consisting of a capital FARM of about 67 acres of well-cultivated land, and excellent homestead and farming appointments, now in the occupation of Mr. GILL; also, that VERY PROMISING COPPER MINE thereon, partially developed by the Great Devon and Bedford (Colcharton) Copper Mining Company (Limited), now in course of voluntarily winding-up, with all its mineral rights, and the engine-house, offices, powder house, carpenter's and miller's workshops, tool, plant, machinery, and materials, and other buildings, comprising ONE 30 in. diameter cylinder double rotary STEAM-ENGINE, with fly-wheel 11 tons, 10 ton BOILER, sweep rods and cranks attached, complete. The whole will be offered in One Lot. The mine is kept dry, and has been worked up to the present time. Possession will be given immediately after the sale. The entire property being freehold, and the surface and minerals sold, there will be no royalties payable.

The whole can be inspected by applying to the agent, Capt. WILLIAM SKEWIS, Tavistock; or to Capt. JAMES HUGHES, on the mine, who are instructed to afford every information respecting the state and prospects of the workings and lodes; and further particulars and handbills can be obtained of the auctioneers, Plymouth; J. H. SKYRME, Esq., solicitor, Ross; or of the liquidator of the company, Mr. THOMAS BLAKE, public accountant, Bank Offices, Ross.

CARMARTHENSHIRE.

VALUABLE FREEHOLD ESTATE, in the parish of Llanon, about five miles from the flourishing town and seaport of Llanelly, comprising the FARMS called CURN HOWELL, CWMLETTLLEWED, MUDDLESCOMBE, MORLAIS, PENDERY WELL, GELLYRHWYDD, BANKMAUR, and DILORA, containing together 522 acres, rich in MINERALS, and with suitable RESIDENCES and HOMESTEADS. Possession at Michaelmas.

Messrs. DRIVER AND CO. are instructed to SELL, BY AUCTION, on Thursday, the 9th August, in five lots, at the Ship and Castle Hotel, Llanelly, at Five or Six o'clock precisely, the above VALUABLE PROPERTIES.

Full particulars and conditions of sale, with plans, are in preparation, and may shortly be had at the Ship and Castle, Llanelly; the Mackworth Arms, Swansea; the Estate Exchange, Change-alley, Cornhill; of Messrs. PARTRIDGE and EDWARDS, solicitors, King's Lynn; of Mr. EDWARD BAGOT, C.E., Llanelly; and of Messrs. DRIVER and Co., surveyors, land agents, and auctioneers, No. 4, Whitehall.

AUGUST 21, 1866.

MR. T. T. WHEAR is instructed to OFFER FOR SALE, BY PUBLIC AUCTION, at Tyack's Hotel, in Camborne, on Tuesday, the 21st day of August, at Three o'clock in the afternoon, SHARES in the following (DIVIDEND AND PROGRESSIVE) MINING, and other COMPANIES, viz:—

EAST POOL ST. IVES CONSOLS
SOUTH WHEAR FRANCES
WEST WHEAR FRANCES
WEST WHEAR SETON
WHEAR GRENVILLE
EAST WHEAR GRENVILLE
GREAT WHEAR BUSY
NORTH ROSKEAR
ROSE ARNOVETH
SOUTH WHEAR CROFTY

THE PALMOUTH DOCKS, AND PALMOUTH HOTEL.
With a little advance in the price of tin and copper, several of the above mines (not already leaving profits) will, doubtless, pay large dividends.

CARMARTHENSHIRE, SOUTH WALES.

TO RAILWAY COMPANIES, CONTRACTORS, AND OTHERS.
MR. ROBERT HOW has been favoured with instructions to SELL, BY AUCTION, at the Railway Station, Carmarthen, on Friday, Aug. 24, 1866, at Two o'clock P.M., TWO VERY POWERFUL LOCOMOTIVE ENGINES, of superior construction, and but recently built, by Messrs. Rothwell and Co., Bolton. Also, a small but very useful BROAD GAUGE ENGINE.

The engines, which will be sold singly, may be inspected at Carmarthen station, where all information respecting them may be obtained.

Conditions will be produced at the sale. Sale to commence at Three P.M.
Catalogues will be forwarded on application to the Auctioneer, Alhambra Chambers, No. 49, Lombard-street, London, E.C.

TO BE SOLD, BY AUCTION.

JOSEPH DUNSTAN'S MONTHLY SALE OF MINE SHARES WILL TAKE PLACE at Karkeek's Seven Stars Hotel, Truro, on WEDNESDAY next, 1st of August, at Four o'clock in the afternoon, among which there are several dividend and progressive mines. Parties wishing to offer shares at this auction will please communicate with the auctioneer without delay.
Truro, July 23, 1866.

FOR SALE.—A CORNISH BOILER, nearly new, 14 ft. by 4 ft., tube 2 ft. diameter, with fittings, £50; without fittings, £40. A new vertical multitubular BOILER, 20-horse power, price £75. A 14 inch diameter FORCE PUMP, complete, price nearly 4 tons £25. TWO FLY-WHEELS, each 2 tons, price £15 each. The IRONWORKS of an overhead TRAVELLING CRANE, to lift 5 tons, price £30. Will be ready shortly, an EGG-END BOILER, 35 ft. long by 5 ft. 6 in. diameter, 7-16ths plate, price £105. A Schiele's patent FAN, nearly new, to melt 1 ton per hour, price £4 10s. A STEEL YARD, new, to weigh up to 2 tons, price £7 10s.—Apply to Mr. CHAS. SHEPPARD, engineer, Ogmere Foundry, Bridgford.

FOR SALE.—A SECOND-HAND PORTABLE OR TRACTION STEAM ENGINE, of 7-horse power; has reversing gear; with or without pit winding drum.—Apply to BARRROWS and CARMICHAEL, Portable Engine Works, Banbury, Oxon.

IMPORTANT TO IRONMASTERS, CAPITALISTS, AND OTHERS.

TO BE LET, THE IRONSTONE UNDER upwards of SIX HUNDRED ACRES of LAND, in the heart of the CLEVELAND IRONSTONE DISTRICT, viz:—In the several parishes or townships of Skelton and Stanthorpe, in the county of York, surrounded by iron mines of most valuable character. Those in the immediate neighbourhood are now being worked, but any lessee of the above would be allowed a reasonable time for testing the value and capabilities of it. The property under which the stone lies is about one mile from the Cleveland Railway.

For further information, apply to D. T. PITCH, Esq., Priestcrofts, Skelton, Redcar; or to Messrs. WEATHERILL and LLOYD, solicitors, Guisborough.
Guisborough, July 26, 1866.

TO MINERS AND OTHERS. WHITE CARBONATE OF IRON, OR SPATHOZE, AND MICACEOUS ORE, OR PEROXIDE OF IRON.

TO BE LET, the IRON ORES in and under an extensive tract of land situate in the parish of HENNOCK, near the town of CHUDLEIGH, in the county of DEVON, and adjoining the Teign Valley Railway, now in course of construction, the communication with which will be very easy, and by means of which the produce may be exported by sea as well as by land.

The above affords a most desirable opportunity for persons desirous of engaging in a mining adventure, and it is believed may be worked very profitably and advantageously, large deposits having been discovered, and upon analysis by Dr. H. M. Noad, P.H.D., F.R.S., Professor of Chemistry in the Medical School, St. George's Hospital, the white carbonate, or spathoze, appears to contain:—

Carbonate of iron	73-96
" manganese	13-46
" lime	2-00
" magnesia	5-00
Sulphur	0-00
Phosphoric acid	0-00
Silicious sand	0-00
And the micaceous ore—	
Peroxide of iron	85-5
Oxide of manganese	0-0
Lime	0-0
Magnesia	0-0
Sulphur	0-0
Phosphoric acid	0-0
Silicious sand	13-9—99-14

For particulars, apply to Capt. NICOLLS, South Exmouth Mine, Hennock, who will point out the iron field; or to Messrs. KITSOS, solicitors, Torquay.

CWM RHAYADR MINE LEASE AND PLANT TO BE DISPOSED OF.—Immediate possession can be given. There are several lead ore veins traversing the estate. Further particulars can be obtained, and to treat, to "H. D., Post-office, Ruabon, North Wales.

NICKEL AND COBALT REFINING, AND GERMAN SILVER WORKS, 16, OZELL STREET NORTH, BIRMINGHAM.

STEPHEN BARKER begs to inform the Trade that he has the following articles for sale:—REFINED METALLIC NICKEL, REFINED METALLIC BISMUTH, OXIDE OF COBALT, GERMAN SILVER—IN INGOTS, SHEET, WIRE, &c. NICKEL AND COBALT ORES PURCHASED.

GOLDENHILL, COBALT, NICKEL, COLOUR, BORAX, AND CHEMICAL WORKS.

NEAR STOKE-UPON-TRENT, STAFFORDSHIRE.
JOHN HENSHALL WILLIAMSON, MANUFACTURER AND REFINER, Purchaser of Borate of Lime and Tincal.

COAL CUTTING MACHINERY.—The WEST ARDLEY COMPANY having, by recently patented improvements, perfected their coal cutting machinery, worked by compressed air, are NOW READY TO MAKE CONTRACTS for the CONSTRUCTION and USE of their MACHINES.

The results of twelve months' experience in the working of these machines, by the West Ardsley Company, have proved most satisfactory, their use being found to CHEAPEN the COST and IMPROVE the average SIZE of the COAL, to LIGHTEN the LABOUR, and also to MODIFY the SANITARY CONDITION of the MINE.

All communications to be made to Messrs. FIRTH, DONNISTHORPE, and BOWER, No. 8, Britannia-street, Leeds.

NOTICE.—The WEST ARDLEY COMPANY, having reason to believe that their patents are being infringed upon, hereby give notice that they will TAKE LEGAL PROCEEDINGS AGAINST ALL PARTIES who may MAKE FOR SALE, OR USE ANY MACHINERY in the construction of which any such INFRINGEMENT is MADE.

SAFETY FUSE.—Messrs. WILLIAM BRUNTON AND CO., PENHALLICK, POOL, near CAMBORNE, CORNWALL, and BRYMBO, near WREXHAM, MANUFACTURERS OF FUSE, of every size and length, as exhibited in the Great Exhibition of 1861, and supplied to the Royal Arsenal at Woolwich, the Arctic Expedition, and every part of the globe.

For the convenience of their customers and others in the North, W. BRUNTON and Co. have recently erected a branch manufactory at Brymbo, near Wrexham, where, as at Cornwall, they are at all times PREPARED TO EXECUTE UNLIMITED ORDERS for SUPPLYING FUSE, upon warrant that it will prove equal to, if not better than, any to be procured elsewhere.

GUN COTTON FOR BLASTING.—The extended use of this material has enabled the manufacturers to issue a new List, showing a LARGE REDUCTION IN PRICE, and they now beg to call the attention of those interested in MINING and BLASTING OPERATIONS to the GREAT SAVING IN TIME and COST which may be effected by the introduction of gun-cotton.

Directions for use and full particulars obtained upon application to THOMAS PRENTICE AND CO., 173, FENCHURCH STREET, LONDON; or GUN COTTON WORKS, STOWMARKET.

Swan Rope Works.

GARNOCK, BIBBY, AND CO., CHAPEL STREET, LIVERPOOL.

MANUFACTURERS OF FLAT and ROUND HEMP and IRON and STEEL WIRE ROPES for MINING, RAILWAY, and SHIPPING PURPOSES. MANILLA ROPE of SUPERIOR QUALITY, FIFTY PER CENT. STRONGER and THIRTY PER CENT. CHEAPER than Russian hemp rope. WIRE ROPE of FIRST QUALITY WIRE, and the HIGHEST STANDARD of STRENGTH.

Patent Flat and Round Wire and Hemp Ropes, &c.

JOHN AND EDWIN WRIGHT, PATENTEES, CITY OFFICE, 19, LONDON STREET, E.C.

ESTABLISHED 1770.

Manufacturers of every description of IMPROVED PATENT FLAT and ROUND WIRE ROPES.

From the very best quality of charcoal iron and steel wire.

PATENT FLAT and ROUND HEMP ROPES.

SHIPS' RIGGING, SIGNAL and FENCING STRAND, LIGHTNING CONDUCTORS, STEAM PLOUGH ROPES (made from Webster and Horsfall's patent steel), WIRE, HEMP, FLAX, ENGINE YARN, COTTON WASTE, &c.

UNIVERSE WORKS, MILLWALL, POPLAR, LONDON.

UNIVERSE WORKS, GABRIEL STREET, BIRMINGHAM.

No. 27, OSWALD STREET, GLASGOW.

CITY OFFICE, No. 19, LONDON STREET, LONDON.

CREASE'S NEW AND IMPROVED PATENT BORING MACHINE.—In consequence of the various and IMPORTANT IMPROVEMENTS that an experience of several years has enabled the inventor to introduce into these machines, he can with the most perfect confidence recommend them for their increased DURABILITY, SIMPLICITY, ECONOMY, and SPEED to be attained by their adoption in DRIVING LEVELS or DRIFTS.

The inventor has made arrangements to supply them in any quantity, with warranty. Orders executed according to their date of priority.

Address, EDWARD S. CREASE, Tavistock, Devon.

BASTIER'S CHAIN PUMP.—This patent pump is the MOST EFFICIENT in existence for LIFTING ANY QUANTITY of WATER from ANY DEPTH. One lifting from a depth of 170 ft. may be seen at work daily, on application to the

SOLE LICENSEES,

MESSRS. J. JACKSON AND CO., ENGINEERS, 17, GRACECHURCH STREET, LONDON, E.C.

Who supply PUMPS and LICENCES.

Communications to Mr. Bastier, the patentee, to be sent to the same address.

AGENT FOR THE COUNTIES OF NORTHUMBERLAND AND DURHAM, YORKSHIRE, DERBYSHIRE, AND NORTH STAFFORDSHIRE.

MR. THOMAS GREENER, MINING OFFICE, NORTHGATE, DARLINGTON.

RED LION HOTEL, TRURO.—OLD-ESTABLISHED FIRST-CLASS FAMILY, COMMERCIAL, AND POSTING HOUSE.—In returning thanks to the nobility, gentry, commercial gentlemen, and the public generally for their patronage for many years past, Mrs. DOBB begs to inform them that no effort on her part will be wanting to afford every comfort, and thus obtain a continuation of their support.

Superior accommodation to families, tourists, and mining gentlemen travelling on business or pleasure, at moderate charges. Ladies' and gentlemen's coffee and private sitting-rooms. Table d'hôte daily. First-class cooks.

Dog-carts, wagoettes, and carriages of all descriptions. Hears and mourning-coaches. Excursion and railway omnibuses.

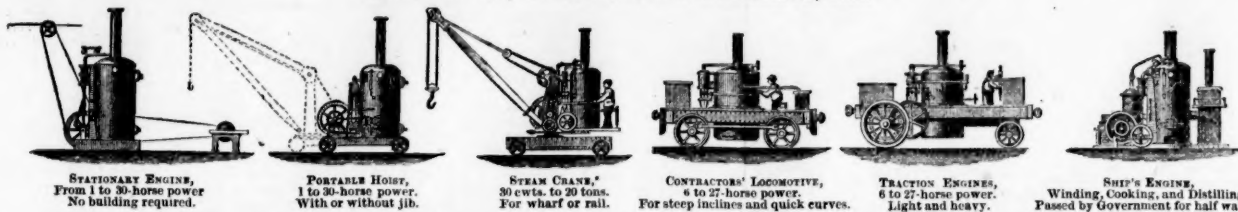
Orders for weddings, funerals, or posting, promptly attended to. Stock and show-rooms for commercial purposes. An omnibus to meet every train.

RAILWAYS AND MINES.—Capitalists who seek safe and

profitable investments, free from risk, should act only upon the soundest information. The market prices for the day are for the most part governed by the immediate supply and demand, and the operations of speculators, without reference to the *bona fide* merits of the property. Railways depend upon competition with neighbouring companies, the probabilities of alliance or competition with neighbouring companies, the creation of new shares, the state of the Money Market as affecting the renewal of debentures, and other considerations founded on data to which those only can have access who give special attention to the subject. Mines afford a wider range of profit than any other public securities. The best are free from debt, have large reserves, and pay dividends bi-monthly varying from £10 to £15 per cent. per annum. Instances frequently occur of young mines rising in value 400 or 500 per cent. But this class of security, more than any other, should

CHAPLIN'S PATENT PORTABLE STEAM ENGINES AND BOILERS.

PRIZE MEDAL, INTERNATIONAL EXHIBITION, 1862.



* These engines were selected by H.M. Commissioners to receive and send away the heavy machinery in the International Exhibition.

From the STRENGTH, SIMPLICITY, and COMPACTNESS of these ENGINES they are extensively USED for GENERAL PURPOSES, and also in situations where STEAM-ENGINES OF THE ORDINARY CONSTRUCTION CANNOT BE APPLIED.

ALEXANDER CHAPLIN AND CO., PATENTEES AND SOLE MANUFACTURERS,

CRANSTONHILL ENGINE WORKS, GLASGOW. LONDON OFFICE,—11, ADAM STREET, ADELPHI, LONDON, W.C.

ENGINES OF EACH CLASS KEPT IN STOCK for SALE or HIRE, and ALL OUR MANUFACTURES GUARANTEED as to EFFICIENCY, MATERIAL, and WORKMANSHIP.

Parties are cautioned against using or purchasing imitations or infringements of these patent manufactures.

PATENT FLEXIBLE TUBING,
AND BRATTLE CLOTH FOR MINES,
MANUFACTURED BY
* **ELLIS LEVER,**
PATENTEE,
WEST GORTON WORKS, MANCHESTER.

VULCANISED INDIA-RUBBER,
FOR ENGINEERS AND MECHANICAL PURPOSES.
VALVES—for Marine and Land Engines' Steam Packing, sheet or roll.
DELIVERY AND SUCTION HOSE—for Brewers, Distillers, Fire-engines,
Gardens, &c.
MACHINE BANDS—for all descriptions of Machinery.
GAS TUBING—with or without wire.
GAUGE GLASS RINGS; WASHERS.
Price Lists free on application.
SOUTHWARK INDIA-RUBBER COMPANY (LIMITED),
67, GRANGE ROAD, BERMONDSEY, LONDON, S.E.

TAVISTOCK IRONWORKS AND STEEL ORDNANCE COMPANY (LIMITED).
(LATE GILL AND CO.)
ENGINEERS, IRON AND BRASS FOUNDERS,
MANUFACTURERS OF
STEAM ENGINES, BOILERS, AND MACHINERY OF ALL KINDS.
CHAINS, SHOVELS, EDGE TOOLS, AND EVERY DESCRIPTION OF CAST
AND HAMMERED IRON FOR MINING, MANUFACTURING,
RAILWAY, OR AGRICULTURAL PURPOSES.
Machinery sent to all parts of the world.
Foreign mining companies supplied on liberal terms.

RAILWAY CARRIAGE COMPANY (LIMITED)
ESTABLISHED 1847.
OLDBURY WORKS, NEAR BIRMINGHAM.
MANUFACTURERS OF RAILWAY CARRIAGES AND WAGONS, and EVERY
DESCRIPTION OF IRONWORK.
Passenger carriages and wagons built, either for cash or for payment
over a period of years.
RAILWAY WAGONS FOR HIRE.
CHIEF OFFICES,—OLDBURY WORKS, NEAR BIRMINGHAM.
LONDON OFFICES,—6, STOREY'S GATE, GREAT GEORGE STREET,
WESTMINSTER.

RAILWAY WAGON WORKS, BARNSELY.—
CRAIK BROTHERS are PREPARED TO SUPPLY COAL AND COKE
WAGONS OF EVERY DESCRIPTION, either for cash, or by deferred payments
through wagon leasing companies.

THE METROPOLITAN RAILWAY CARRIAGE AND WAGON COMPANY (LIMITED).
SALTLEY WORKS (BIRMINGHAM).
Successors to Messrs. JOSEPH WRIGHT and SONS.
MANUFACTURERS OF RAILWAY CARRIAGES, WAGONS, and RAILWAY
IRONWORK of every description.
RAILWAY CARRIAGES AND WAGONS built for CASH, or upon DEFERRED
PAYMENTS EXTENDING over a period of THREE to TEN YEARS.
A large number of COAL, IRONSTONE, BALLAST, and other WAGONS to
be LET ON HIRE.
MANUFACTORY AND CHIEF OFFICES—SALTLEY WORKS, BIRMINGHAM.
LONDON OFFICES—No. 8, ADAM STREET, ADELPHI, W.C.

THE BEVERLEY IRON AND WAGON COMPANY (LIMITED).
MANUFACTURERS OF RAILWAY CARRIAGES AND WAGONS, WROUGHT
AND CAST IRON CARRIAGE AND WAGON WHEELS, AXLES, HAMMERED
IRON, AND HEAVY SMITH'S WORK FOR ENGINEERS, &c. BRASS AND
IRON FOUNDERS. MAKERS OF PORTABLE FARM RAILWAYS, TURN-
TABLES, CROSSINGS, SWITCHES, &c. AGRICULTURAL MACHINISTS.
MANUFACTURERS OF FIELD, ROAD, and BARN IMPLEMENTS, PATENT
LOBBY, CART, and CARRIAGE WHEELS, with WOOD or IRON NAVES.
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MANUFACTURE RAILWAY WAGONS OF EVERY DESCRIPTION, for
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especially for shipping purposes. Wagons in working order maintained by contract.
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DOUBLE SHEAR STEEL, FILES MARKED
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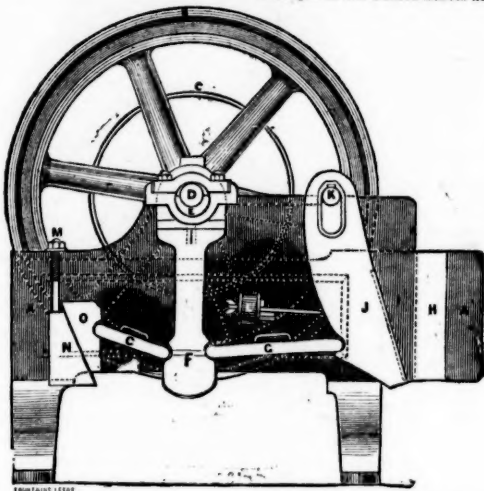
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SALOM'S NEW OPERA and FIELD GLASS, and the
"RECONNOITERER" GLASS, price 10s. 10d., sent free.—This TOURIST'S
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windows 10 miles off, landscapes at 30 miles, Jupiter's moons, &c.—The MARQUIS
OF CARMARTHEN: "The reconnoiterer is very good."—The EARL OF BREADAL-
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it can be surpassed; it gives great satisfaction."—Capt. SENDREY, Royal Small
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combining so much power for its size with so much clearness."—The Field: "We
have carefully tried it at 800-yard rifle range, and found it fully equal to any of
those present, although they had cost more than four times its price."—Notes
and Queries: "What intending tourist will now start without such an indispen-
sable companion?" The celebrated HYTHE GLASS shows bullet-marks at
1200 yards, and men at 3½ miles; price, 31s. 6d. All the above, respectively
bearing the registered trademarks, "Salom," "Reconnoiterer," and "Hythe,"
are only to be had direct from SALOM and CO., 98, Princess-street, Edinburgh,
and 127, Regent-street, London, W.
A few hours will carry a glass to almost the remotest town in the United
Kingdom.
No agents of any kind anywhere.

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TO MINERS, IRONMASTERS, MANUFACTURING CHEMISTS, RAILWAY COMPANIES, EMERY AND FLINT
GRINDERS, MCADAM ROAD MAKERS, &c., &c.
BLAKE'S PATENT STONE BREAKER
OR ORE CRUSHING MACHINE.

FOR REDUCING TO SMALL FRAGMENTS ROCKS, ORES, AND MINERALS OF EVERY KIND.
It is rapidly making its way to all parts of the globe, being now in profitable use in California, Washoe, Lake Superior, Australia, Cuba, Chili, Brazil, and
throughout the United States and England. Read extracts of testimonials:—



The Parys Mines Company, Parys Mines, near Bangor, June 6.—We have had
one of your stone breakers in use during the last twelve months, and Captain
Morcom reports most favourably as to its capabilities of crushing the materials
to the required size, and its great economy in doing away with manual labour.
For the Parys Mining Company, JAMES WILLIAMS.

H. R. Marsden, Esq.

Edon Emery Works, Manchester.—We have used Blake's patent stone breaker,
made by you, for the last 12 months, crushing emery, &c., and it has given every
satisfaction. Some time after starting the machine a piece of the moveable jaw,
about 20 lbs. weight, chilled cast-iron, broke off, and was crushed in the jaws of
the machine to the size fixed for crushing the emery.
H. R. Marsden, Esq. THOS. GOLDSWORTHY & SONS.

Alkali Works, near Wednesbury.—I at first thought the outlay too much for so
simple an article, but now think it money well spent. WILLIAM HUNT.

Welsh Gold Mining Company, Dolgelly.—The stone breaker does its work ad-
mirably, crushing the hardest stones and quartz. WM. DANIEL.

Our 15 by 7 in. machine has broken 4 tons of hard whinstone in 20 minutes,
for fine road metal, free from dust. Messrs. ORD and MADISON,
Stone and Lime Merchants, Darlington.

Kirkless Hall, near Wigan.—Each of my machines breaks from 100 to 120 tons
of limestone or ore per day (10 hours), at a saving of 4d. per ton.
JOHN LANCHESTER.

Oreco, Ireland.—My crusher does its work most satisfactorily. It will break
10 tons of the hardest copper ore stone per hour. WM. G. ROBERTS.

General Fremont's Mines, California.—The 15 by 7 in. machine effects a saving
of the labour of about 30 men, or \$75 per day. The high estimation in which
we hold your invention is shown by the fact that Mr. Park has just ordered a
third machine for this estate. SILAS WILLIAMS.

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H. R. MARSDEN, SOHO FOUNDRY,

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ONLY MAKER IN THE UNITED KINGDOM.

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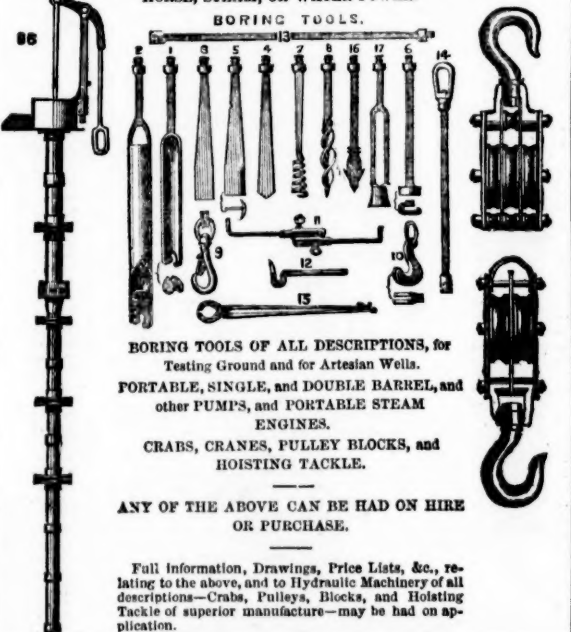
JAMES RUSSELL AND SONS
the original patentees and first makers of wrought-
iron tubes, of the CROWN PATENT TUBE WORKS,
WEDNESBURY, STAFFORDSHIRE, HAVE BEEN
AWARDED A PRIZE MEDAL for the "good work"
displayed in their wrought-iron tubes and fittings.
Warehouse, 81, Upper Ground-street, London, S.

BICKFORD'S PATENT SAFETY-FUSE OBTAINED THE
PRIZE MEDAL at the ROYAL EXHIBITION of 1851, at the INTER-
NATIONAL EXHIBITION of 1862, in London, and at the IMPERIAL EX-
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BICKFORD, SMITH, AND CO.,
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formed that the name of their firm has been attached to
fuse not of their manufacture, beg to call the attention of
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EVERY COIL OF FUSE MANUFACTURED BY THEM
has TWO SEPARATE THREADS PASSING THROUGH THE COLUMN OF
GUNPOWDER, and BICKFORD, SMITH, AND CO. CLAIM SUCH TWO SE-
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HYDRAULIC and GENERAL ENGINEERS,
MANUFACTURERS OF PUMPS OF EVERY DESCRIPTION FOR HAND,
HORSE, STEAM, OR WATER POWER.



BORING TOOLS OF ALL DESCRIPTIONS, for
Testing Ground and for Artesian Wells.

PORTABLE, SINGLE, and DOUBLE BARREL, and
other PUMPS, and PORTABLE STEAM
ENGINES.

CRABS, CRANES, PULLEY BLOCKS, and
HOISTING TACKLE.

ANY OF THE ABOVE CAN BE HAD ON HIRE
OR PURCHASE.

Full information, Drawings, Price Lists, &c., re-
lating to the above, and to Hydraulic Machinery of all
descriptions—Crabs, Pulleys, Blocks, and Hoisting
Tackle of superior manufacture—may be had on ap-
plication.

GALLOWAY'S PATENT CONE TUBES FOR STEAM
BOILERS.—The introduction of these vertical taper tubes into the ordi-
nary flued boilers PROMOTES THE NECESSARY CIRCULATION OF WATER,
and thus INCREASES THEIR STRENGTH AND DURABILITY.
Their adoption not only adds to the steam-producing power of the flues, but
renders the practice of hooping with angle or tee iron rings quite unnecessary.
The tubes have now been in use upwards of 14 years, and above 22,000 are in
work in various parts of the country, with the best results.
They can be easily fixed in existing boilers (owing to their taper form) by any
boiler maker, but can only be obtained from the patentees, W. and J. GALLOWAY
and SONS, Engineers and Boiler Makers, Manchester.

Just published, price 2s. 6d.,

A SMALL BOOK ON PUDDLING, containing useful and
important information for Puddlers, Ironworkers, and others, may be
obtained through booksellers, or direct from the author. Where forgemen and
others subscribe, and forward a Post-office order, a liberal allowance will be
made, which will be increased if the number ordered is 24.—For terms, apply to
B. RAYLISS, Bridge-street, Pontypool, Monmouthshire.

THE COUNTY PAPER.—County advertisements inserted by Authority of

the Court of Quarter Sessions.

THE FLINT COUNTY CHRONICLE: A Mining, Agricultural,
and General Advertiser for Mold, Flint, Rhyl, Holywell, Northop, Buck-
ley, Hawarden, Saltney, and neighbourhood. The great success which has at-
tended the publication of the "County Chronicle" justifies the proprietors in
drawing the attention of advertisers to the special advantages it offers as an ad-
vertising medium. For the announcements of auctioneers, public companies,
and tradesmen, it is the best in the county, having attained a circulation
throughout Flintshire treble that of all the other so-called local papers com-
bined. As a newspaper it contains full and impartial reports of all local events,
and devotes particular attention to the mining and old trade interests of the dis-
trict—special articles appearing from week to week. Agriculture is not neg-
lected, the latest market reports being a distinctive feature of the paper, toge-
ther with other matters of interest to the agriculturist. All communications
should be addressed "To the Editor," Bromfield Villa, Maccysdewen, Mold.

**THE WREXHAM ADVERTISER, DENBIGHSHIRE, FLINT-
SHIRE, SHROPSHIRE, CHESHIRE, AND NORTH WALES REGISTER**
(Established 1848).—The town of Wrexham forms the centre of a large and im-
portant agricultural and mining district, which, from the increasing attention
of capitalists, aided by the advantages afforded by new railways, is rapidly in-
creasing in population, and bids fair to rival Wolverhampton in commercial
importance. The Advertiser, partaking of the general prosperity, has largely
increased its weekly circulation, 1000 more copies being now issued of each im-
pression than at the close of 1864, and it now has a circulation more than dou-
ble that of any other paper published in Denbighshire and Flintshire, and is the
only medium by which advertising can fully and effectually communicate with
the public generally in those counties. Price 2d., stamped 3d. Published by
Bayley and Bradley, Advertiser office, Wrexham.

THE NEWCASTLE CHRONICLE AND NORTHERN
COUNTIES ADVERTISER. (ESTABLISHED 1764.)
Published every Saturday, price 2d., or quarterly 2s. 2d.
Offices, 42, Grey-street, Newcastle-upon-Tyne; 50, Howard-street, North
Shields; 195, High-street, Sunderland.

THE STOCKTON AND HARTLEPOOL MERCURY AND
MIDDLESBOROUGH NEWS (published at Hartlepool) is eminently the
organ of the Coal, Iron, and Iron Shipbuilding Trades in the extensive Mining
and Maritime District of South Durham and Cleveland, with which it has been
closely identified since its origin. The "Mercury" was for years the only news-
paper published in South Durham and Cleveland, and is yet the only one pub-
lished more than once a week. Advertisements to be forwarded to the publisher,
Mr. JOHN H. BELL, Southgate, Hartlepool.

DR. WATSON (of the Lock Hospital), F.R.S., Member of the
College of Physicians and Surgeons, on the SELF-CURE OF NERVOUS
and PHYSICAL DEBILITY, Lowness of Spirits, Loss of Appetite, Timidity, In-
capacity for Exertion, &c., with means for perfect restoration. Sent free on re-
ceipt of two stamps, by Dr. WATSON, No. 1, South-crescent, Bedford-square, London.
Consultations daily from Eleven till Three, and Six till Eight.

Just published, post free for two stamps,
WONDERFUL MEDICAL DISCOVERY, demonstrating the
true causes of Nervous, Mental, and Physical Debility, Lowness of Spirits,
Indigestion, Want of Energy, Premature Decline, with plain directions for per-
fect restoration to health and vigour, WITHOUT MEDICINE. Sent free on re-
ceipt of two stamps, by W. HILL, Esq., M.A., Berkeley House, South-crescent,
Russell-square, London, W.C.

NERVOUS DEBILITY: ITS CAUSE AND CURE.—Before
seeking aid from the so-called remedies without medicine, read this va-
luable work on the Treatment and Cure of Nervous and Physical Debility, Loss
of Appetite, Pains in the Back, Spasmodic, &c., with Plain Directions for
Perfect Restoration to Health. Sent post free to any address, on receipt of two
postage stamps. Letters of enquiry or details of case promptly answered.
Address, Dr. SMITH, 8, Burton-crescent, London, W.C.

CONSULT DR. HAMMOND (of the Lock Hospital, &c.),
No. 11, Charlotte-street, Bedford-square, London, W.C., in all those ailments
which tend to embitter and shorten life, and especially those termed peculiar and
confidential. At home, Nine to Two, and Six to Eight; Sundays, Ten to Twelve.
The "Self-Curative Guide" post free, six stamps.
N.B.—Cases of recent infection cured in two days.

Just published, free six stamps,
LITERARY PHOTOGRAPHS; or SECRET LIFE PICTURES.
In a series of Six Tableaux. Dedicated to husbands, bachelors, and
widowers: with medical hints to all classes of both sexes. Sent post free on
receipt of six stamps, by H. JAMES, Esq., Percy-house, Bedford-square, London.

THE MINING SHARE LIST.

BRITISH DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Pershare.	Last paid.
200	Botallack, t. c. St. Just	91 5 0	—	—	270	300	488 15 0
10000	British Soda Company	8 0 0	—	—	—	—	9 per cent.
1000	Brooklyn, t. Cardigan	12 0 0	—	—	—	—	8 1 0 0
916	Cargill, s. t. Newlyn	15 5 7	15	12 13	—	—	13 15 0
867	Cwm Eryn, t. Cardiganshire	7 10 0	—	—	—	—	20 18 0
128	Cwmystwith, t. Cardiganshire	3 9 0	—	—	—	—	352 10 0
280	Derwent Mines, s. t. Durham	300 0 0	—	—	—	—	162 0 0
1024	Devon Gt. Consols, c. t. Tavistock	1 0 0	—	—	420	440	1030 0 0
358	Dolcoath, c. t. Camborne	128 17 6	—	—	—	—	813 10 0
6144	East Caradon, c. t. Cleer	2 14 6	7	63 67 6	—	—	14 5 6
300	East Darwen, t. Cardiganshire	32 0 0	—	—	—	—	113 10 0
128	East Pool, t. c. Pool, Illogan	24 5 0	—	—	—	—	379 10 0
5000	East Rosewarne, c. t. Gwinnar	2 15 0	—	—	—	—	0 10 0
1906	East Wheal Lowell, t. Wendron	3 9 0	6	5 8 1/2	—	—	2 7 6
2800	Foxdale, t. c. t. Man*	25 0 0	—	—	—	—	63 10 0
5000	Frank Mills, t. Christow	3 18 6	—	—	—	—	3 5 6
15000	Great Laxey, t. c. t. Man*	4 0 0	19 1/2	19 1/2	20 1/2	—	4 15 0
5908	Great Wheal Vor, t. c. Helston	40 0 0	18 1/2	18 1/2	—	—	10 0 0
1024	Herodford, t. c. t. Liskeard	8 10 0	32	30 32	—	—	37 10 0
6000	Hingston Down, c. t. c.	5 10 6	3 1/2	3 1/2	—	—	0 10 0
400	Lisburne, t. Cardiganshire, Wales	18 15 0	—	—	—	—	470 0 0
5000	Marke Valley, c. t. Cardigan	4 10 6	4	3 3/2	—	—	3 7 0
3000	Minera Boundary, t. Wrexham	25 0 0	—	—	—	—	18 1 0
1800	Minera Mining Co. t. Wrexham	25 0 0	—	—	—	—	198 3 0
40000	Myndy Iron Ore	3 5 0	—	—	—	—	0 6 6
600	Pant-y-Glen, s. t. c.	20 0 0	—	—	—	—	10 per cent.
300	Parys Mines, c. t. Anglesey	50 0 0	—	—	—	—	157 0 0
1120	Providence, t. c. t. Lelant	10 6 7	25	20 24	—	—	80 17 6
512	South Caradon, c. t. Cleer	1 5 0	—	—	—	—	529 10 0
6000	South Darwen, t. Cardiganshire	3 6 0	—	—	—	—	0 5 6
6000	Tincroft, c. t. Pool, Illogan	1 0 0	10	8 1/2	9 1/2	—	18 1 0
3000	W. Chiverton, t. Perranzabuloe	—	70	64 66	—	—	11 7 6
400	West Wheal Seton, c. t. Camborne	47 10 0	110	100 110	—	—	456 4 0
512	Wheal Bassett, c. t. Illogan	5 2 6	—	—	—	—	620 0 0
1024	Wheal Friendship, c. t. Devon	20 0 0	—	—	—	—	300 0 0
4235	Wheal Kitty, t. St. Agnes	5 4 6	—	—	—	—	2 19 0
2800	Wheal Rose, c. t. Scorrier	—	10	8 9	—	—	1 0 0
436	Wheal Trelawny, s. t. Liskeard	58 10 0	150	140 150	—	—	226 15 0
1040	Wheal Trelawny, s. t. Liskeard	5 17 0	—	—	—	—	54 0 6

BRITISH MINES WITH DIVIDENDS IN ABEYANCE.

1555	Craddock Moor, c. t. Cleer	10 11 0	—	—	—	—	7 12 0
1200	Bryn Gwyn, t. Mold	9 0 0	—	—	—	—	3 3 6
2880	Clifford Amalgamated, c. t. Gwinnar	30 10 0	5 1/2	5 1/2	—	—	35 6 0
6000	East Carn Brea, c. t. Redruth	3 15 0	1 1/2	1 1/2	—	—	0 5 0
20000	Minera Gt. Consols, c. t. c.	7 0 0	—	—	—	—	19 18 11
6000	New Birch Tor and Vitrifer Cons. t. c.	1 6 6	—	—	—	—	0 18 0
6000	West Bassett, c. t. Illogan	1 10 0	—	—	—	—	26 14 0
1024	Wheal Rose, c. t. Scorrier	—	10	8 9	—	—	1 0 0
1024	Wheal Trelawny, s. t. Liskeard	58 10 0	150	140 150	—	—	226 15 0
7000	Wicklow, c. t. Wicklow	2 10 0	22 1/2	2 1/2	—	—	15 11 0

FOREIGN DIVIDEND MINES.

15000	Cape Copper Mining	7 0 0	9 1/2	8 1/2	9	—	2 19 6
1500	East Indian Coal, California	10 0 0	—	—	—	—	0 10 0
25000	Fortuna, t. Spain	2 0 0	—	—	—	—	1 3 4
10000	Gonnessa, t. c. [5000 £5 pd., 5000 £2 pd.]	—	—	—	—	—	7 1/2 per cent.
15000	Linares, t. Spain	3 0 0	2	—	—	—	11 6 4
9275	New Wildberg, t. c.	2 0 0	—	—	—	—	0 12 0
50000	Panicleillo, s. t. c.	3 0 0	3 1/2	2 1/2	3	—	10 per cent.
10000	Pontblassat, s. t. France	20 0 0	—	—	—	—	2 19 8
87500	Port Hill, t. c. t. c.	1 0 0	—	—	—	—	15 6 0
20000	Scottish Australian Mining Co. t. c.	15 0 0	45	45 48	—	—	63 15 0
11000	St. John del Rey, Brazil	15 0 0	—	—	—	—	0 9 0
40000	Victoria (London) [25000 £1 pd., 25000 £2 pd.]	1 0 0	—	—	—	—	0 19 6
40000	West Canada Mining Company	1 0 0	—	—	—	—	0 19 6

FOREIGN MINES WITH DIVIDENDS IN ABEYANCE.

16000	Alten and Quenangen United, c.	4 10 0	—	—	—	—	4 5 0
20000	Australian, c. t. South Australia	7 6 0	—	—	—	—	0 2 0
2464	Burra Burra, c. t. South Australia	5 0 0	—	—	—	—	325 0 0
12000	Cobre Copper Company, c. t. Cuba	40 0 0	7	2 1/2	3	—	101 0 0
10000	Copago Mining Company, Chile	16 0 0	—	—	—	—	6 18 0
10000	Don Pedro No. del Rey, Brazil	0 14 0	1	3 1	—	—	0 9 0
10000	English and Canadian Mining Company	2 0 0	—	—	—	—	12 0 0
25000	Gen. Mining Assoc. Nova Scotia	30 0 0	21	19 21	—	—	21 0 0
60000	Kapunda Mining Co., Australia	1 0 0	—	—	—	—	0 12 0
10000	Lusitania (Portugal)	2 10 0	—	—	—	—	1 7 0
103815	Marquette and New Granada	1 0 0	—	—	—	—	0 9 6
43174	United Mexican, s. t. Mexico	28 5 0	1 1/2	1 1/2	1 1/2	—	2 19 0
10000	Vancouver, c. t. c.	5 0 0	—	—	—	—	0 15 0
40000	Vandamutana, c. t. S. A.	3 0 0	—	—	—	—	0 5 0

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.
32500	Alamillos, t. Spain	2 0 0	1 1/2	—	—
100000	Anglo-Brazilian, s. t. c.	0 0 0	—	—	—
40000	Britannia Silver-Lead Mines, France [15750 £1 pd.]	—	—	—	—
25000	Capula, s. t. Mexico	1 8 0	1 1/2	—	—
30000	Chontales, g. s. Nicaragua	2 10 0	—	2 1/2	2 1/2
10000	Copago Smelting, Chile	10 0 0	—	—	—
300	Copper Mines Co. of South Australia [150 £100 pd.]	150 470	pd.]	—	—
50000	East del Rey, g. Brazil	2 15 0	—	—	—
15000	El Chico Silver Mining and Reduction Company	4 10 0	—	—	—
8000	English and Canadian Mining Company	2 0 0	—	—	—
40000	Fortuna, c. t. West Australia	2 0 0	—	—	—
50000	Frontino and Bolivia, g. New Granada	1 5 0	1/2	9s. 11s.	—
80000	Great Northern, c. t. South Australia	1 11 0	—	—	—
10000	Great Barrier Lead t. Mining, s. t. New Zealand	5 0 0	—	—	—
12000	Nerbudda Coal and Iron [5000 £5 pd., 3000 £3 pd.]	—	—	—	—
50000	Nova Scotia Lead and Gold	1 15 0	—	—	—
15000	Orea, c. t. New Zealand [5000 fully pd.]	1 10 0	—	—	—
15000	Pachuca Silver Mining Company, Mexico	1 0 0	—	—	—
4000	Pel River Lead and Mineral	100 0 0	—	—	—
30000	Pestarena, g. t. Venezuela	1 10 0	1 1/2	—	—
23000	Quebrada, c. t. Venezuela	10 0 0	—	—	—
10178	Rhenish Consolidated, t. [5000 £5 pd., 4178 £2 10s. pd.]	—	—	—	—
50000	Rossa Grande, g. Brazil	0 7 6	—	—	—
15000	San Pedro del Monte, s. t. Mexico	3 0 0	—	—	—
10000	San Roque, t. Spain	5 0 0	—	—	—
30000	Val Antigua, g. t. c.	5 10 0	—	—	—
5000	Val de Sarrasin, c. t. c.	20 0 0	—	—	—
5000	Valdemar Mining Company	0 15 0	1	—	—
50000	Vallancasca, g. Italy	1 0 0	—	—	—
45000	Victor Emanuel, c. t. Italy	—	—	—	—
20000	Washoe, g. [10000 £5 pd., 10000 £4 pd.]	—	2 1/2	1 1/2	—
80000	Worthing, c. t. South Australia	1 0 0	—	—	—
7500	Yorke Peninsula, South Australia	1 0 0	—	—	—

BANKS AND FINANCIAL COMPANIES.

Shares.	Banks.	Paid.	Last Pr.	Bus. done.
40000	Alliance	25 0 0	22	20 21
40000	Australian Mort. Land and Finance	5 0 0	—	4 1/2
30000	Australasia	40 0 0	—	67 69
10000	Bank of Egypt	25 0 0	32	28 30
25000	Bank of India	25 0 0	—	5 7
50000	Bank of London	25 0 0	—	38 40
10000	Bank of New Zealand	10 0 0	19	17 19
25000	Bank of Queensland	25 0 0	—	—
50000	Brazilian and Portuguese	10 0 0	—	—
8515	Canada Company	32 10 0	80	—
50000	Canadian Loan and Investment	2 10 0	—	1 1 1/2
40000	Chart. Merc. India, Aust. & China	20 0 0	15	14 16
30000	Char. Merc. India, Lond. & China	25 0 0	36	33 35
20000	Colonial	25 0 0	—	15 16
40000	Company of African Merchants	3 0 0	3 1/2	3 1/2
150000	Consolidated Bank	4 0 0	5	4 1/2
200000	Credit Foncier and Mobilier of England	8 0 0	5	4 1/2
10000	Discount Corporation	20 0 0	8	8
20000	East London	5 0 0	3 1/2	3 4
20000	English, Scottish, & Aust. Chart.	20 0 0	14	13 14 1/2
20000	General Credit and Finance of London	20 0 0	—	4 1/2
20000	Imperial Bank	20 0 0	2 1/2	2 1/2
150000	International Financial Society	5 0 0	3 1/2	3 1/2
300000	International Land Credit	6 0 0	3 1/2	3 1/2
4000	London African Trading	10 0 0	—	—
50000	London Chartd. Bank of Australia	20 0 0	23	22 23
37500	London and County	20 0 0	66	63 66
40000	London Financial Association	25 0 0	13	13 13 1/2
72000	London Joint-Stock	15 0 0	45	41 43
5000	London Mercantile Discount	10 0 0	—	—
10000	London and South-Western	20 0 0	19	17 18
50000	London and Westminster	20 0 0	96	92 94
50000	Mercantile and Exchange	11 10 0	—	—
17156	Metropolitan and Provincial	20 0 0	12	9 11
20000	Mineral Rights Association	1 0 0	—	—
20000	National of Australia	4 0 0	6	5 6
20000	National of Liverpool	10 0 0	14	13 14
40000	Nation	20 0 0	—	—
37500	New South Wales	20 0 0	67	65 68
12500	Ottoman Company	2 0 0	—	—
40000	Union of Australia	25 0 0	—	46 48
80000	Union of London	15 0 0	46	44 46

PROGRESSIVE MINES.

Shares.	Mines.	Paid.	Last Pr.	Bus. done.	Last Call.	
1200	Alderley Edge, c. Cheshire	10 0 0	..	..	..
3000	Bedford Unit, c. Tavistock	2 6 8	..	3/4 %	..	
3200	Bedol Aur. t. Holywell	1 2 0	..	..	July, 1866
500	Bills, t. Flint	20 0 0	..	..	Fully pd.
1000	Blaendafryn, s. t. c.	2 0 0	..	..	Mar. 1866
6000	Bolting Hill Consols, c.	0 5 0	..	..	July, 1866
1248	Boscawell, t. c. St. Just	6 15 0	..	..	..
5000	Bottle Hill, t. Plymouth	1 14 6	..	..	June, 1866
1600	Brixham Hematite Iron	6 7 6	..	..	..
2000	Brynford Hall, t. Flint	28 0 0	..	..	Jan. 1866
2000	Bryn Gwlog, t. Flint	9 0 0	..	..	June, 1866
30000	Calbeck Fells, t. Cumber*	1 2 6	1 1/2	..	July, 1866	
1000	Camborne Consols, c.	18 0 0	..	..	Feb. 1866
4600	Camborne Vn. & W. Fran.	11 8 10	1 1/2	1 1/2	July, 1866	
5000	Cape Cornwall, c. St. Just	2 5 0	..	..	Jan. 1866
2000	Caradon & Phoenix Cons.	0 12 0	..	..	April, 1866
914	Caradon Cons., c. Cleer	30 3 6	..	..	Nov. 1865
1000	Carn Brea, c. t. Illogan	21 0 0	..	..	..
4000	Carn Camborne, c. Camb.	2 0 0	3/4	3/4	July, 1866	
4005	Cardigan Cons. [1000 £2 pd., 3005 £4 5s. pd.]	..	..	..	April, 1866
600	Cardiganshire, s. t. c.	10 0 0	..	..	Mar. 1866
20000	Carysfort [3200 £2 1/2 pd., 16800 £1 1/2 pd.]	..	..	..	Mar. 1866
6400	Cashwell, t. Cumberland*	2 10 0	2	..	Jan. 1866	
60000	Castell Carn Dochan, g.	0 8 6	..	..	..
2500	Cefn Cilewyl, t. Flint*	2 15 0	..	..	April, 1866
2500	Central Miners, t. c.	6 1 6	..	..	April, 1866
16000	Central Snailbeach t.	1 0 0	..	..	Fully pd.
3000	Chiverton, t. Penzance	8 7 6	6	6 6	May, 1866	
3000	Chiverton Moor, t. Penz.	4 16 0	5	4 3/4	May, 1866	
4000	Clara Unit, t. t. Pouterwyd*	5 0 0	..	..	July, 1865
3000	Cloance Wood, c.	5 0 0	..	..	Fully pd.
16000	Coalrath & Bond* [5000 £1 pd., 10700 16s. pd.]	..	..	..	Feb. 1865
250	Conduff, c. t. Carnarvon	76 10 0	..	..	..
5000	Conorres, t. Wicklow	1 0 0	..	..	Fully pd.
5000	Cornish Clay and Tin*	1 0 0	..	..	Fully pd.
2450	Cook's Kitchen, c. Illogan	19 14 9	2	2 1/2	2 1/2	July, 1866
4200	Copper Hill, c. Redruth	12 10 0	..	..	June, 1866
861	Crane, c. Camborne	32 4 6	..	..	July, 1866
3000	Crenver & W. Abraham*	4 0 0	..	..	Mar. 1866
12000	Crelake, c. Tavistock	3 1 0	..	..	Aug. 1865
2500	Crowan Consols, c. Crowan	7 13 0	..	..	Dec. 1865
4200	Crowley, t. Penzance	1 13 0	..	..	Dec. 1865
6000	Cuddra, t. St. Austell	4 18 6	..	..	June, 1866
35000	Dale, t. North Stafford	1 0 0	1/2	2s. 4s.	..	
1000	Darren, t. Cardigan*	9 4 0	..	..	April, 1866
4076	Devon and Cornwall, c.	6 6 3	..	..	..
5000	Devon Great Maria*	7 0 0	..	..	May, 1866
1024	Devon Wheel Lops, c.	17 0 0	..	..	July, 1866
12800	Drake Walls, t. Calstock	2 1 0	..	..	..
2000	Ding Dong, t. Gwulva	45 6 6	..	..	Sept. 1865
20000	Dolfrwyd, t. c.	0 15 0	..	..	June, 1864
3000	Dyfnegwm, t. Wales	12 6 0	..	..	..
1000	Eaglebrook, t. s.	17 19 0	..	..	Feb. 1865
512	East Basset, c. Redruth*	29 10 0	15	13 15	..	
2000	East Basset and Grylls, t.	3 5 0	..	..	July, 1865
6000	E. Bortle Hill, t. Plymouth	0 6 6	..	..	Oct. 1865
2000	East Buller, c. Gwennap	2 0 0	..	..	Mar. 1865
2000	East Chiverton, t. Penz.	2 8 6	2 1/2	..	..
2048	E. Falmouth, t. Kenwyn	6 1 6	..	..	April, 1864
6000	E. Grenville, c. Camborne	3 1 0	2 1/2	2 1/2	May, 1866	
4000	E. Gunnislake, s. S. Bed. c.	8 16 6	..	..	May, 1866
6145	East Jane, s. t. Cardinham	2 17 6	..	..	April, 1865
6000	East Laxey, t. Isle of Man	2 10 0	..	..	Dec. 1865
3986	E. Providence, t. Uney Lel.	4 15 3	..	..	May, 1866
5000	E. Tresavan, c. Gwennap	0 10 0	..	..	May, 1865
5000	East Snafell, t. t. of Man*	2 0 0	..	..	Dec. 1864
5610	East St. Austell, c. Camborne	11 0 0	..	..	Oct. 1865
6000	East St. Just, c.	3 0 0	..	..	Jan. 1866
256	East Tolgus, c. Redruth	98 0 0	..	..	April, 1866
1190	E. Wh. Agar, c. St. Cleer	12 17 0	..	..	Jan. 1865
2048	East Wheel Grylls, t. c.	3 10 0	..	..	July, 1866
4000	E. Wh. Russell, Tavistock	11 11 0	3	2 1/2	2 1/2	July, 1866
15000	Ellen Unit, c. St. Agnes*	1 0 0	..	..	Nov. 1866
6144	Esther End, t. Cardinham	0 6 8	..	..	July, 1865
1000	Fortress, t. Penzance	6 1 6	..	..	..
940	Fowey Cons. c. Tavy	5 1 6	..	..	June, 1866
6000	Furze Hill Wood Con. Buckl.	1 16 0	..	..	Feb. 1866
10000	Furston, c. s. [5000 £1 10s.]	..	..	..	Mar. 1865
1028	Garden, t. Morvah	5 12 9	..	..	Mar. 1866
4096	Garidina Unit, t. Wendron	5 7 7	..	..	Feb. 1866
4000	Gawton, c. Tavistock	3 5 6	..	..	Feb. 1866
6000	Gen. Min. Co. for Ireland, c.	4 0 0	..	..	..
6000	Glasgow Consols, c. c.	13 0 0	..	..	Sept. 1865
6000	Great Hill, t. Flint	1 3 6	..	..	..
6144	Gonamena, c. St. Cleer	5 4 0	..	..	April, 1866
6000	Gothic, s. t. Cardigan*	2 10 0	3	2 1/2	3	..
486	Grahamer and St. Aubyn*	69 0 0	..	..	July, 1866
4000	Great Caradon, c. St. Ives	3 6 0	1/2	..	April, 1866	
10000	Great Devon and Bedford.	2 10 0	..	..	Mar. 1866
3000	Great East Lovell, t. Helston	1 15 0	..	..	May, 1866
2000	Great Man, t. t. of Man*	2 15 0	..	..	Jan. 1866
5000	Great North Downs	8 0 0	..	..	June, 1866
4000	Gt. Northern of Ireland*	0 10 0	..	..	..
12500	Gt. No. Laxey (Isle of Man)*	0 10 0	1 1/2	1 1/2	1 1/2	Feb. 1865
6000	Great Retallack, s. t. b.	1 17 0	..	..	April, 1866
6000	Great South Chiverton, s. t.	1 9 6	..	..	July, 1866
6000	Gt. So. Tolgus, c. Redruth	0 14 6	..	..	..
3000	Great West Chiverton, t.	1 0 0	..	..	June, 1864
313	Great White Badger, t. t.	19 14 0	..	..	June, 1865
6000	Gt. Wh. Badger, t. Kenwyn	16 19 0	..	..	July, 1866
1708	Gt. Wh. Fortune, t. Breage	25 2 0	2 1/2	1 1/2	2 1/2	June, 1866
1000	Great Wh. Metal, Breage*	2 0 0	..	..	May, 1865
119	Great Work, t. Germoe	100 0 0	..	..	..
2560	Grit and Stapeley, t. s.	10 0 0	..	..	July, 1864
9240	Gunnislake (Clitters), t. c.	4 3 0	..	..	..
6068	Gwydyr Pk. Con. t. Llanrwst	1 11 6	..	..	Feb. 1866
6000	Hallenbeck, c. Kenwyn*	2 2 6	..	..	April, 1866
6000	Harrow, t. c.	1 10 0	..	..	Sept. 1864
5000	Havan, c. Cardigan*	4 15 0	..	..	Mar. 1866
7219	Hawkmoor, t. c. Calstock	13 14 0	1 1/2	..	July, 1866	
5000	Hendre, t. Flint*	4 0 0	..	..	April, 1865
6000	Illogan, t. c.	0 19 6	..	..	June, 1866
6000	Lady Bertha, c. Tavistock	3 17 6	..	..	July, 1866
30000	Leewood, c. t. Lydford	3 3 6	..	..	June, 1866
1019	Leeds and St. Aubyn, t. c.	19 14 0	..	..	Mar. 1866
963	Lelant Cons. t. Uney Lelant	3 15 0	..	..	Mar. 1863
16	Levant, t. c.	1 10 0	..	..	Jan. 1866
2000	Long Lake, t. Flint	6 15 0	..	..	Jan. 1866
29000	Lower Park, t. Denbigh*	3 1 0	..	..	Jan. 1864
8000	Mace-y-Safn, t. s.	20 0 0	..	..	..
60000	Maudlin, c. Lostwithiel	4 7 0	..	..	May, 1865
5000	Merilyn, t. Flint	3 15 6	..	..	Jan. 1866
80000	Minera Western Boudry*	0 2 6	..	..	Sept. 1863
4975	Molland, c. South Molland	3 18 0	..	..	Aug. 1865
600	Mount Pleasant, t. Mold	4 0 0	..	..	..
102	Nantmole, t. c.	1 10 0	..	..	May, 1866
4000	Nantons, t. Cardigan*	1 0 0	..	..	Fully pd.
512	Nant Minera, t. s.	6 10 0	..	..	Jan. 1865
250	Nanty Mines, t. Montgom.	20 0 0	..	..	..
60000	New Clifford, c. Gwennap*	2 0 0	2 1/2	..	Mar. 1866	
60000	New Cornish [12000 £1 pd., 12000 12s. pd.]	..	..	..	Dec. 1864
64000	N. Crow Hill, t. St. Stephen	30 0 0	..	..	Feb. 1866
6000	New East Birch Tor, t.	1 2 6	..	..	June, 1865
5314	New E. Hill, c. t. Penz.	9 6 0	..	..	May, 1865
64000	Nether Heald, t. Duffon	1 10 0	..	..	May, 1865
400	New Hendra, t. c. Breage	14 11 0	..	..	Mar. 1866
64000	New Pembroke, t. c.	0 19 0	..	..	July, 1866
960	New Trevelan, c. Redruth	4 8 0	..	..	May, 1866
400	Newtonards Min. Co. Down	50 0 0	..	..	May, 1866
4096	New Wheel Lovell, t.	1 5 0	..	..	May, 1866
6000	New Wheel Martha, c.	1 0 0	..	..	..
400	New W. Hill, c. Camb.	61 0 0	32	..	..
60000	North Chiverton	1 0 0	..	..	June, 1866
60000	North Devon, s. t.	0 13 0	..	..	July, 1866
6000	No. Dolcoath, c. Camborne	3 17 6	..	..	April, 1866
60000	North Downs, c. Redruth	4 6 4	..	..	April, 1866
3681	No. Grambler, c. Redruth	6 9 5	..	..	June, 1866
6000	N. Hallenbeck [5000 £1 pd., 8000 8s. 6d. pd.]	..	..	..	July, 1865
6000	N. North Jane, t. St. Kenwyn	21 8 6	..	..	May, 1866
5000	North Kil Hill, t. c.	1 0 0	..	..	..
2000	North Lelant, t. c.	1 0 0	..	..	Sept. 1865
5000	Nth. Miners, t. Wrexham*	1 0 0	..	..	Fully pd.
4000	N. Phoenix, t. Lingshorne	4 4 0	..	..	May, 1864
4000	North Pool, c. Illogan	4 8 6	5 1/2	..	June, 1866	
700	No. Roskear, c. Camborne	46 5 0	..	1 2	July, 1866	
6000	No. Shepherds, t. Newlyn	6 0 0	..	..	July, 1866
9386	No. Treskerby, c. St. Agnes	1 9 0	2 1/2	2 1/2	..	
6000	North Wheel Basset, c. t.	5 0 0	..	..	April, 1866
5610	North Wheel Crofty, c. t.	3 6 4	..	..	July, 1866
5144	N. Wh. Badger, t. Kenwyn	2 2 10	..	..	Feb. 1866
2200	Okel Tor, c. Calstock	2 10 0	..	..	Oct. 1865
5000	Old Gunnislake, c. Calstock	1 12 6	..	..	May, 1866
6000	Orsedil, t. Flintshire	0 8 0	..	..	..
6000	Par Consols, c. St. Blazey	17 1 3	..	..	Nov. 1866
6000	Par and St. Blazey Cons. t. c.	1 16 0	..	..	Nov. 1866